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24 pin, 222 cps draft, 67 cps LQ, 10 fonts, A4 landscape. 7k buffer expandable to 39K

Star LC24-200 colour..£269.99

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Star SJ48 Autosheet feeder.....£49.99

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WARNING: Before you purchase a monitor make sure it has a full UK spec. You might be buying what you think is a similar monitor at a lower price but it is likely to be a "GREY" import & does not comply with British safety standards or covered by an official warranty

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NEW!!
LOW PRICE

PRINTED IN THE U.K.

It may look as robust as a brick from the outside, but your hard drive is a delicate piece of kit. Turn to page 28 to find out everything you could possibly want to know about keeping yours healthy.

ST REVIEW ISSUE 10 FEBRUARY 1993



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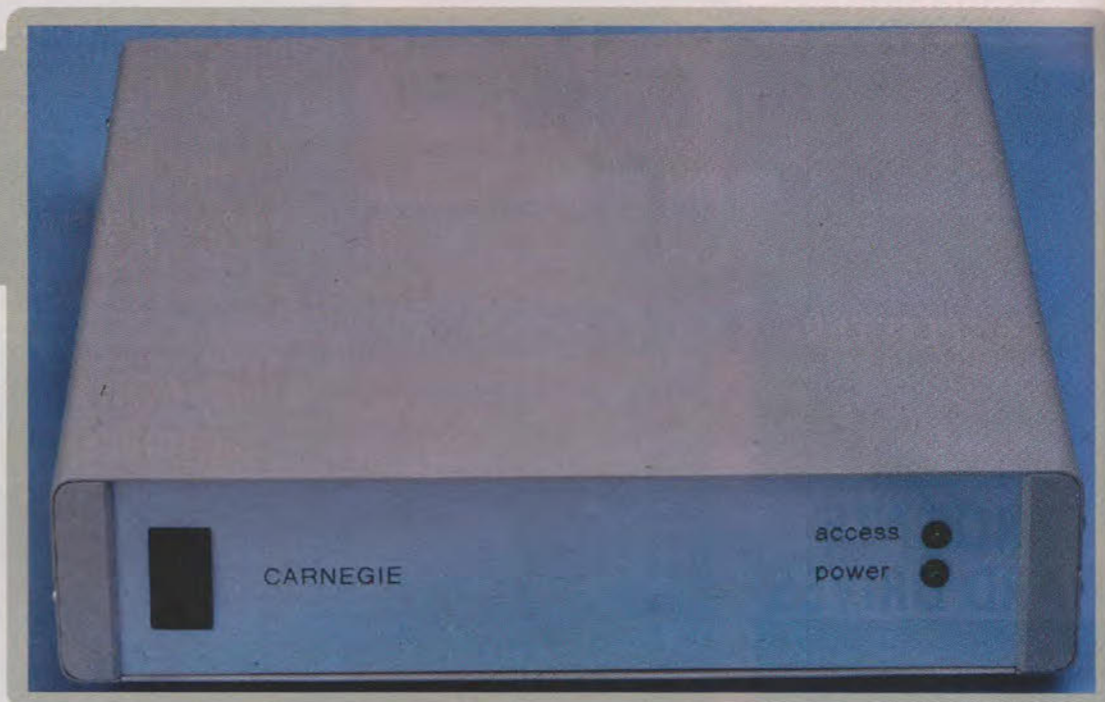
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Cover Disk Returns: Page 13

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Sequels are all the rage this month. We check out some of the biggest with Ubi-Soft's BAT 2 which casts you as an intergalactic CIA agent (left), and 3D Construction Kit 2 which lets you create your own virtual worlds without leaving your ST's keyboard.



ON THIS MONTH'S COVERDISKS

CYBER CONTROL

The final part of our great Cyber Series giveaway is an animation package which can give you that professional result. Use it in conjunction with **CAD-3D 2.0**.

UVK

A demo of 5.7, the latest version. Use it to check whether any of your disks have a virus-nasty lurking on it.

ALSO ON THIS MONTH'S DISK

Programs and utilities galore, including...
SQUISH - An exclusive, multi-level platform game. Squish them before they squish you!
NAMEGRAM - Type in a name and sit back in amazement as streams of anagrams pour forth from this exclusive program...
SEARCHER - An exclusive, useful utility that can search through your disks for those files that you thought you'd lost.
FAMILY TREE - Construct and print out your family tree with this program.
MULTI LABEL COLLECTION - Design and print out your own custom labels.
MAZIST - Ever wanted to create your own maze and print it out? Now's your chance...
BOINK - A colour screen saver which will really have your world spinning!
CLIPART - For the romantics amongst you, a Valentine's Day selection!
VIEW - an excellent little program which allows you to view 14 different types of picture by simply double-clicking on them.



FEATURES

28 THE HARD FACTS

Everything you always wanted to know about hard drives but could never find a magazine who could tell you. We go inside and out with info on software, hardware as well as telling you how a hard drive works, what can go wrong with it and how you can fix it.

32 CUTTING EDGE

Want to keep your disks in tip-top condition? We take a close look at **Diamond Edge**, the latest disk utility package from HiSoft. Find out what it can do for your fragmented files and how it can prevent your drive from shedding its FATS. It can also recover deleted files and show you exactly where everything is on your disk.

34 GET 'EM ON THE RUN

We check our disks for viruses - do you? To complement the virus checker on our cover disk, we look at what computer viruses are, where they come from and how to avoid them.

38 WRITE ON TARGET

It's becoming more and more difficult to decide where a word processor finishes and a desktop publisher begins. **Calligrapher 3** makes that decision just a little bit more awkward...

42 THREE UPSTANDING MACHINES

The launch of the Canon Bubblejet changed the face of budget printers. How does the new BJ-200 measure up? As for Epson, the name has been synonymous with quality dot-matrix printers. We look at the latest 9- and 24-pin printers to bear the name.

45 FAST FORWARD

NVDI has gained the reputation of being a fast, flexible software accelerator for the ST. Have a look at this month's Fast Forward to find out how good the latest version is.

REGULARS

6 NEWS

Atari and Kellogg are running a promotion for the Lynx, Canon launch the latest in the Bubblejet range (reviewed in this issue) and the first Falcon program to use the DSP chip arrives courtesy of Compo Soft.

13 COVERDISKS

We finish our Cyber Series with **Cyber Control**, an animation program which will help you to create professional results. Full tutorial begins on page 14. The second disk has the latest demo version of **UVK**, an excellent, exclusive platform game and various other programs and utilities. Full instructions for loading and using our disks are provided as per usual.

47 SCREEN SCENE

The new year brings us everything from grunt 'n grapple action in **WWF 2** to **Legends Of Valour**, an RPG in a field of its own. If you can handle that, how about trying the last word in ST race games with **No Second Prize**? Or perhaps create your own virtual world with **3D Construction Kit 2**. There's also a round-up of the latest budget and compilation releases to tide you over until your Christmas overdraft is paid off!

82 PD ZONE

To go with this month's cover disk, we've got reviews of the best PD games, art packages and utilities currently available, as well as a round up of what's selling and our usual set of coupons to make your buying easier.

103 MIDI MONTHLY

Considering buying a sequencer? We examine every current package on the ST and include a comprehensive buyer's guide to give you all the necessary information at a glance. Why go anywhere else?

**WIN A
PRINTER!!!**
IN FACT WE'RE GIVING
AWAY TWO! WE'VE
GOT A PAIR OF
EPSON'S LATEST UP
FOR GRABS ON PAGE
113



Get your hands on one of Cheetah's new Characteristick joysticks. We're giving away 40 on page 75.

SCREEN SCENE

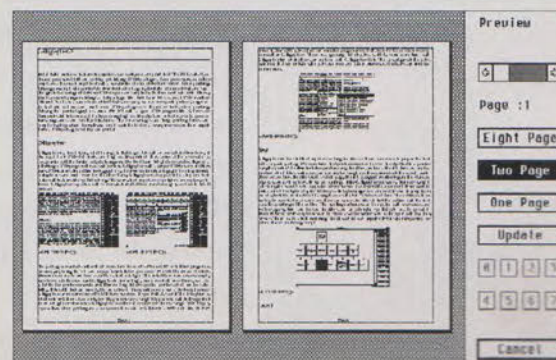
Action, strategy and sport all feature in our games round-up this month

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ST BUYER

Everything for the ST enthusiast in one section. This month learn to use an archiver.

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Find out about Calligrapher III on page 38.

**WHAT
A DEAL!**
CHECK OUT OUR
READER OFFERS ON
PAGE 58

NEWS

CANON BLOWS BUBBLES AGAIN

Hello and welcome to Britain's finest ST magazine, ST Review. Those of you who are regular readers will know that everyone on this magazine works hard to bring you the very best in the world of ST every month and that has always been our prime goal - mine too! So it's with deep regret that I sign off this month to move on to pastures new and leave behind some of the most dedicated and talented people I've ever worked with... all the staff of ST Review and oddly enough, you the readers. It's been your comments, commitment and encouragement that have spurred on the whole team here to create a magazine that is exactly what ST owners want, and exactly what they will continue to get through the pages of ST Review.

Garth Sumpter



It's goodbye from him...and hello from me. Having been Technical Editor since issue three, I've been involved in the direction and accuracy of the magazine for nearly nine months, during which time ST Review has proved that an Atari ST magazine can be technically accurate and written with integrity, yet be a damn good read into the bargain. None of this will change just because there's a new editor - the rest of the team remains the same. You can be assured



that you'll get the same quality of news and reviews coverage along with our excellent Blues, PD Zone and Screen Scene sections. Quality without the hype...

Vic Lennard



Canon has expanded its successful range of bubble jets with the launch of the BJ-200.

This latest model has all of the features of the larger office printers but is more compact. Improvements include a 16-bit processor and control, which increases the print speed by searching for the next print head position. It has a new ink cartridge and print head which, combined with the other features, produce a speed of up to three pages per minute for draft text.

Canon is hoping to further woo the punter with a free one-year warranty plus an 80-sheet cut-paper feeder, which will also accept envelopes and overhead projection transparencies. Retail price is £399 plus VAT.

For further information, write to Canon (UK) Ltd., PO Box 1567, Birmingham, B1 1PE, or call them free on 0800 252223.

THE INVISIBLE MOUSE

A brand new see-through mouse is making its debut country-wide. The Datalux See-Thru Mouse from Spectravideo is now available and features enlarged trigger buttons, an Amiga/ST switch and a high degree of sensitivity, accuracy and smoothness, all for just £22.99, contact Spectravideo on 081 902 2211, or write to Unit 27, Northfield Industrial Estate, Beresford Avenue, Wembley, Middlesex HA0 1NU.



THE GREAT BIG BREAKFAST

Atari has joined forces with Golden Crackles maker, Kellogg's, in a bid to boost sales of the Lynx.

There are 1001 Lynx consoles as prizes — and there'll be badges on offer, too. Cut out the tokens on the pack, and then send off for one of four sets of three badges to pin on to your clothes.

The promotion, costing £250,000, will be seen on millions of packets of the low fat food and is destined for your breakfast table now.

This is considerably more attractive than the average tie-in. Who wants to come home only to find that the kids have taken their expensive pairs of Nikes and ironed-on "Yo! Hip! Happening Dude!" transfers plucked from the box of Megapops?



GATHERING NUTS

Squirrel Soft is releasing an upgraded education package under the grammatically chopped title of *Let's Spell 1st 500 Words*.

Developed from the successful *Let's Spell* series of spelling games, the new program is bigger than the six previous programs put together, and is available only through Squirrel Soft, for £10. The program can be customised to suit parents or teachers.

A demo version is available from Goodman Enterprises, 16 Conrad Close, Meir Hay Estate, Longton, Stoke on Trent, ST3 1SW, telephone: 0782 335650.

Squirrel Soft has also updated the *Magic Story Book Collection*, which is available exclusively from them, for £12.50. Contact Squirrel Soft, 26 Bennett Drive, Warwick, CV34 6QJ, telephone: 0926 833311.

FALCON SOUND PROCESSING — FIRST PICTURES!

SEIKOSHA CORRECTION

Oops! There was a mistake in last month's competition to win a Seikosha SL-90 24-pin printer. We asked you to write in with its maximum print resolution but forgot to state what it was in the review!

The person responsible has been duly punished and made to spend a whole week playing *Cool World* from Ocean.

We will now accept entries with just the first question answered — and we'll be extending the closing date until 14th February 1993.

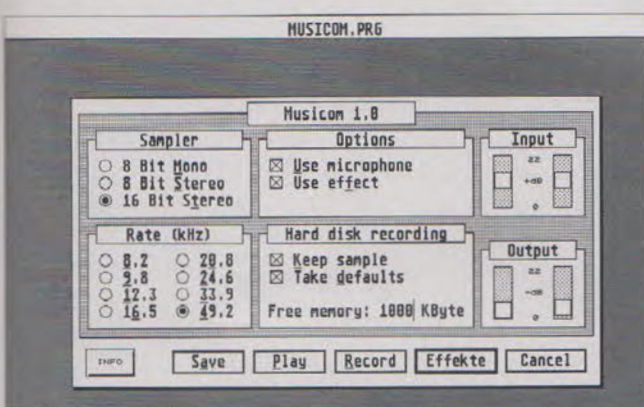
delay, to give an echo effect. All of these can be re-recorded for future use or played instantly, providing another dimension in home entertainment.

Sound can be input via the stereo microphone port and can be sampled at rates ranging from 8.2 up to 49.2 KHz. The higher rate is better quality than a CD, which samples at about 44.1 KHz.

Add to this the new range of PC emulators, starting with a plug-in 286 board, and products like *That's*

Write 2 (word processor) and *That's Address 2* (an address database) and you can see that the Falcon has a rosy future.

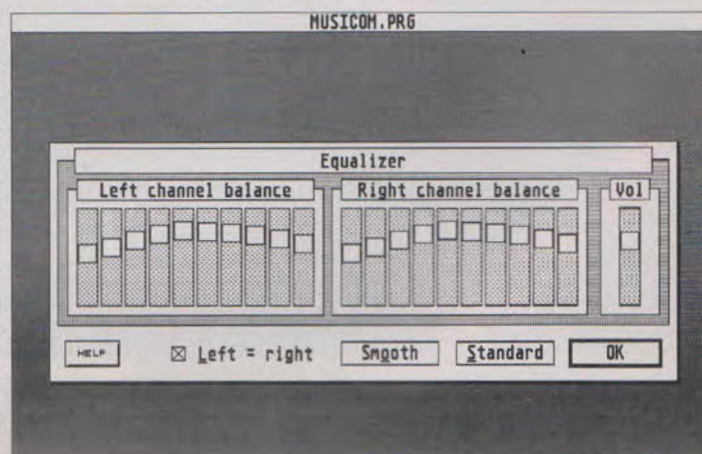
Further details can be obtained by writing to Compo Software Ltd, 7 Vinegar Hill, Alconbury Weston, Huntingdon, PE17 5JA, telephone 0480 891819.



Compo software has released details of its new music package for the Falcon. It's called *Musicom* and will be released at the same time as the first Falcons with a sub-£50 price tag.

Musicom takes full advantage of the Motorola 56001 Digital Signal Processor chip to provide direct-to-disk recording and special effects in real time, turning your Falcon into a powerful sound studio.

The program has special effect features like karaoke mode, which strips voice tracks from recordings to leave the backing track; harmoniser, which adds two voices to yours to give a three part harmony and



THINK OF IT AS A WAY OF LIFE



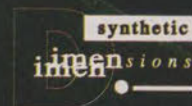
(OR DEATH)

JOURNALISTS see new titles every week, each one claiming to be the best of it's kind, to date. Yet at the recent European Computer Trade Show it was the journalists themselves that could be found singing the praises of one new title in particular - LEGENDS OF VALOUR.

KEVIN BULMER (The Designer of Corporation) and IAN DOWNEND the creators of LEGENDS OF VALOUR, were literally jostled off their feet as writers, retailers and fellow programmers sought to experience what one prominent industry figure called "A game that's more away of life-utterly extraordinary."

Demo disks can only scratch the surface, screenshots in magazines could never do the astounding graphics justice (that's why you'll see none here). The only way to really find out what all the fuss is about is to experience it for yourself. LEGENDS OF VALOUR - The Dawning will be available on Amiga, ST and PC very soon.

Ask your retailer for more details or send a S.A.E. to Danielle Woodyatt at the address below for an information pack.



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SELL-OUT AT GAMESMASTER LIVE!

A good time was had by all at the Gamesmaster Live! show at the NEC in Birmingham.

The show attracted nearly 75,000 people over three days in December, most attending over the weekend. The stage was a recreation of the *Gamesmaster* TV set, with challenges being set throughout the show by Dominik Diamond and the Gamesmaster himself.

All of the major companies from the games software world were present over the weekend and most of them provided free entertainment for everyone who attended, although Domark failed to produce the Harrier Jump-Jet they had promised. The show attracted a lot of media attention with TV and radio companies present in abundance. BBC Radio One's DJ Neil James broadcast his Saturday lunchtime programme live from the event.



CHARTS

Christmas is over and Bullfrog took the number one spot this time around with the brilliant *Populous II*. Could *Sensible Soccer* be its worthy successor?

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10 <i>Indy and the Last Crusade (adv)</i>	Kixx	£14.99
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12 <i>Bubble Bobble</i>	Hit Squad	£7.99
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14 <i>Battlehawks 1942</i>	Kixx	£14.99
15 <i>Dizzy - Prince of the Yolk Folk</i>	Codemasters	£7.99
16 <i>Future Wars</i>	Kixx	£12.99
17 <i>CJ in the USA</i>	Codemasters	£7.99
18 <i>Pang</i>	Hit Squad	£7.99
19 <i>Battle Chess</i>	Kixx	£10.99
20 <i>Midwinter</i>	Kixx	£12.99

National charts supplied by Microbyte.

BRIGHT FUTURE FOR FALCON

Over 100 developers around Europe are currently working on projects involving the Falcon which range from games to music packages, and several are already complete. This will ensure that the machine has the kind of support that will encourage computer buyers to invest in the new technology.

The Falcon caused a storm at Yorkshire TV's *Bad Influence* just before Christmas. Atari's Darryl Still said: "I visited the *Bad Influence* team recently and I ran a program that had four different true-colour demos on screen with a sound sample of INXS' 'Need You Tonight' playing over it. They were so impressed that they ran a special feature in the following week's programme!"

There are plans to feature the Falcon on other television shows. We'll bring you more details when they become available.

Atari is also working closely with Kodak to expand their Photo CD package, which adds credence to the rumours of an Atari CD-ROM drive. As the camera writes the pictures digitally it will allow you to take its photographs and use them in art packages like *True Paint* from HiSoft. Although the CD unit will probably appear some time this year, it's not yet clear whether it will be a stand-alone machine similar to Commodore's CDTV, but with a new type of processor, or simply a bolt-on drive that will work with existing ST technology.

Peter Walker, spokesman for Atari UK, said: "We are looking forward to a better year in 1993". When questioned about the rumoured Jaguar games console, he explained: "Atari is planning to re-enter the consumer electronics market with a major innovative product in the next year".



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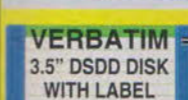
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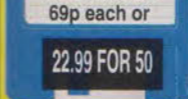
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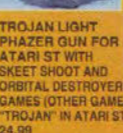
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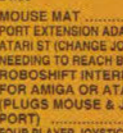
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COVER DISKS

WORKING WITH YOUR COVER DISKS

USING
CYBER CONTROL
PAGE 14

The final part of *Cyber Studio*, *Cyber Control*, completes the set this month, and there's a collection of useful programs, games, utilities and demos

As well as *Cyber Studio* which completes the series of *Cyber* packages given away over the past three months, we have some Valentines clip art and programs that will suit all tastes.

LZH 2.01 is provided to complement the archivers tutorial on page 92 and there are two demo programs - *Ultimate Virus Killer V5.7D* and *Multidesk*.

The artists amongst you will make good use of *View* and *Scan4pic* and there are the usual examples for those of you following the *HiSoft BASIC* tutorial. An essential screen saver that will remind you of the old days is provided for everyone's use.

COMPRESSED FILES

We are using a new method of compression on our files so we can give you as much as possible on our cover disks. The program files are compressed using a special program that reduces the size without altering it in any significant way.

STEP BY STEP

BACKING UP YOUR DISKS

This guide is based on a single disk system. If you have two floppy disks, place a blank formatted disk in floppy disk B and proceed as shown. For a single disk system, follow the instructions. You will be told when to swap the disks. In both cases, make sure you have a blank formatted disk ready before you begin

1 Format a double sided disk by placing a new disk in the floppy disk drive. Click on floppy drive A and go to the File option at the top of the screen. Click on Format and then click on OK for both of the next two dialogue boxes. Write protect the cover disk (but not the blank disk) so that the disk cannot be written to by the ST, moving the small black notch on the back of the disk so that you can see

through it. This will save mistakes later on. Place the cover disk in the drive.

2 Click on Floppy Disk A to highlight it and hold the left mouse button down.

3 Use the mouse to drag the floppy disk icon towards Floppy Disk B until that is also highlighted. The computer will treat the floppy disk drive sym-



bol as being A for the source drive (the cover disk you are copying) and B for the destination floppy disk drive (the blank disk you are copying to). Don't worry, the ST's not going to expect you to have another disk drive connected.

4 Release the mouse button. You should then be presented with a dialogue box telling you that the computer is



copying disk A to disk B. It will also tell you that all of the info on floppy disk B will be erased. As you have just formatted disk B there is nothing to erase.

5 Click on OK and another dialogue box will appear with the word Copy highlighted. Click on OK again. The computer will read as much as it can from disk A and hold it in memory before it asks you to insert disk B. Swap the cover



disk for your blank formatted disk and then click on OK. You must remember that disk A is always the cover disk and disk B is your blank formatted disk.

6 Swap the disks as requested and you will end up with a copy of the disk on your blank formatted disk. Make sure that you put the original disk somewhere safe and work with the copy.

In the unlikely event of anything subsequently going wrong with your coverdisks, you'll have the original to refer to whenever you need it.

WHAT TO DO IF YOU HAVE PROBLEMS WITH YOUR COVER DISKS

DON'T PANIC!

In the unlikely event that your cover disk won't load or gives you any other problems at all, remove all cartridges and peripherals and try again. Please note that to restart the computer, you must SWITCH IT OFF for at least five to 10 seconds to clear all traces of resident programs before continuing.

If this doesn't solve your problem, return your disk, with a brief note of the problem and a stamped

addressed envelope to P.C. Wise Ltd., Dowlais Top Business Park, Dowlais, Merthyr Tydfil, Mid Glamorgan, CF48 2YY. They will test the disk and send a replacement as soon as possible. You can contact the P.C. Wise Helpline with any urgent problems. Please note that they will deal with faulty disks only and not general enquiries. They can be contacted by telephone on 0685 350505 between 10.30 and 12.30 on weekdays.

This month sees the third part of our *Cyber* series, *Cyber Control*, which will help you create professional animations or put finishing touches to those already created with *CAD 3D2*

Cyber Control is a programming language specially designed to make creating *Cyber Studio* animations even easier. Its function is to create and animate objects, unlike *Cyber Mate*, which is an editing language used to assemble the final animation.

Cyber Control is very similar to the *BASIC* programming language, so it's easy for beginners to learn. There are several example codes on the cover disk; use these together with our step-by-step guides and you will be putting your own animations together in no time at all.

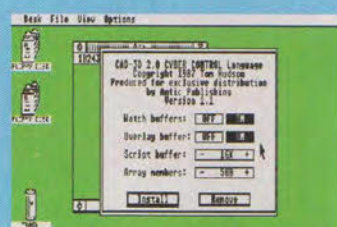
CYBER CONTROL ATTRIBUTES

Cyber Control enhances *CAD3D 2.0* with the addition of many more exciting features, including:-

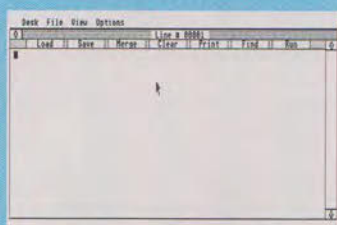
- TWO NEW CAMERAS, giving freedom to move anywhere within your 3D universe.
- HIERARCHICAL CONNECTIVITY, for fluid, connected movement - eg. hinged mechanisms or people walking.
- SPLINE GENERATION, for smooth 3D motion and natural appearance of complex objects.
- REAL-TIME ANIMATION PREVIEW so you can view your work in progress.
- CEL ANIMATION, allowing for layered foreground and background images.
- OVER 100 PROGRAMMING COMMANDS, giving greater flexibility and finer control.
- LABELS, which replace numbers to make editing and programming easier.
- HARD COPY PRINT STATEMENTS, which make debugging easier.
- NUMERIC EXPRESSION HANDLING, which includes mathematical functions such as arrays, function handling, and cos, sin, tan.

TAKE CO

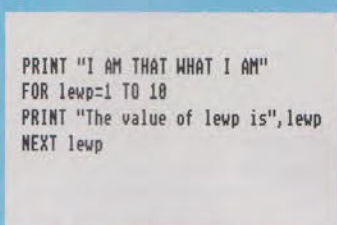
STEP BY STEP



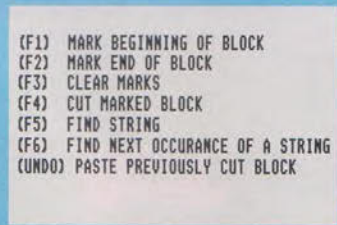
1 When the dialogue box appears switch on 'watch buffers' and 'overlay buffer'. Leave 'script buffer' and 'Array members', clicking on 'install'.



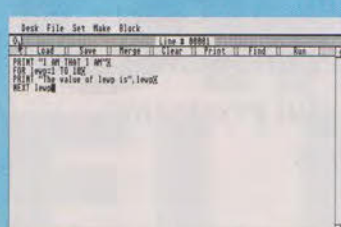
2 Look under the 'desk' menu to find 'CYBERCONTROL'; this calls up the text editor used for writing and editing your *Cyber Control* programs.



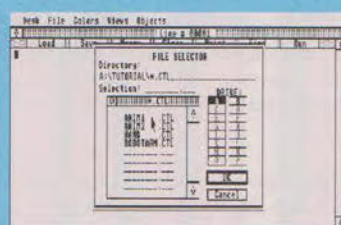
3 If you have a printer, type the above, then click on 'Run', abort by pressing the control-shift-Alternate keys together. Selecting 'clear' erases your program.



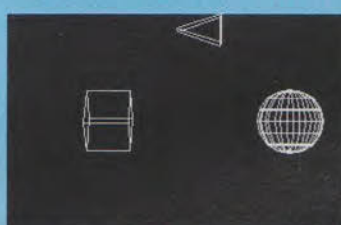
4 Use the cursor keys to edit programmes, shift-delete to erase one line. 'Print' for printing programme listings, and function keys for cut and paste.



5 Closing the edit window (top left box) will not erase your program, but save it first. Quit and load *CAD-3D2* from December's cover disk.



6 When *CAD-3D2* is loaded call up the *Cyber Control* accessory again. Select 'load', click on the 'Tutorial' file and open the 'Anim1.CTL' animation file.



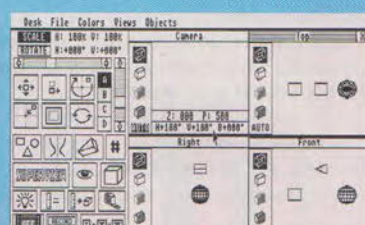
7 Selecting 'Run' will execute the current program. *Cyber Control* first checks the syntax then executes. Remember that control-shift-Alternate breaks the program.



8 Take a closer look at the code - the semicolon is used as a comment (ignored by *Cyber Control*). 'New' clears work space of all shapes.



9 Change the third line, 'view wire', to 'view solid'. 'Draft' is quick at rendering but not very detailed. Change to 'final' when your program is completed to see the finished result.



10 From the editor move down to line 20, (ignore top line of gembox). Camera 1 or 'cam1' finishes at positions Horizontal (H+180) and Vertical (v+180). See same window in *CAD-3D2* (H+180V+180 B+000).

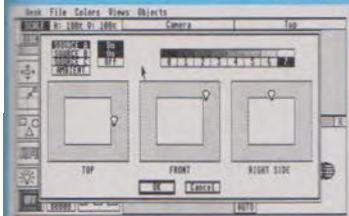


11 The camera position is first set in line four, as explained by the 'comment' statements. Try different values, then select run. Read all 'comment' statements for help in understanding the programmes.



12 Set the camera to default 'cam 10, 0, 0', and on line six add 'TORUS Torus, 14' and run programme. You have created a *TORUS* called 'Torus' with a colour range eight to 14.

NTROL



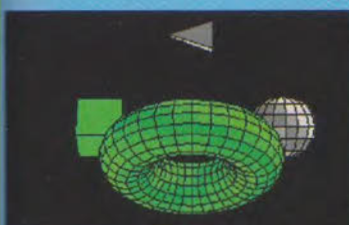
13 On lines eight and nine lighting is set up. 'Direct' can be A, B C, which refers to the three light sources available. The first 0-7 figure is brightness, the following are X, Y, Z co-ordinates.

```
For lewp=1 to 10
  Clrgrp:Select ball:Xlate 250,0,0
  Clrgrp:Select wd:Xlate 0,0,250
  Clrgrp:Select cube1,Xlate -250,0,0
  Allgrp:Superview
Next lewp
```

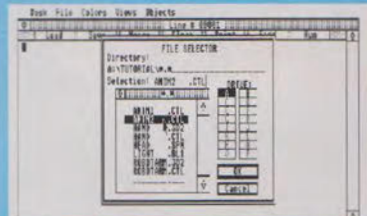
14 'Lton' is used to turn on light A, B, C, and 'Ambient' brightness can be 0-7. 'Watch on', and 'Superview' are used to view shapes. 'Clrgrp' deselects all the shapes, while 'select' chooses them.



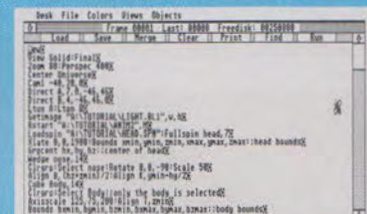
15 Add a line after line 15 by pressing 'return', and enter 'Clrgrp: Select Torus: Xlate 0, 0, -150'; this will move the Torus created through the 'Y' plane to 150 position, effectively moving it down the screen.



16 The edges of our CAD-3D2 universe are 4500 to 4500; the X, Y, Z, coordinates should not exceed this. 'Xlate' uses these to move objects, 'Deselect' turns off shapes. Experiment with different programme changes.



17 Click on 'clear' to erase the program. Place the 'Tutorial' folder containing 'Anim2.CTL', 'Head.SPN', and 'Light.BL1' on a blank formatted disk. Load 'Anim2.CTL' from this and run (you'll need to wait 20 minutes).



18 The finished recording will have a DLT and PI1 file taking up a total of about 228K of memory. The top gembar shows number of frames, memory of last frame and free disk space.



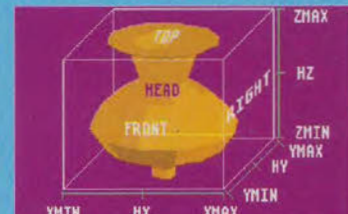
19 On line two 'view solid: Final', Final is used instead of 'draft' for higher quality (but slows down processing speed). 'Zoom 80' and 'Perspective 400' sets CAD-3D2's zoom and perspective modes.



20 'Centre' Universe is the centre of rotation; the parameters, Universe, Group, or Arbitrary, are acceptable. 'Get image' loads overlays. 'W' stands for width and 'H' the height of the image.



21 'Rstart' sets up disk files DLT & PI1, 'M' for Monoscopic or 'S' for Stereoscopic animation. 'Loadspin "A:\Head.Spn": Fullspin Head, 7', creates the head by loading a spin template in colour 7.



22 The head is moved to position 'Xlate 0, 0, 1900', and 'Bounds' stores the minimum and maximum X, Y, Z, 3D information. 'Grpcent' hx, hy, hz returns the centre of bounds information, useful for linking objects.



23 'Wedge' is used to make the 'nose' (colour 14) it is selected and rotated. In the next line along the X, Y, Z, 'scale' 50 reduces its size, 'Align' lines up the edges.



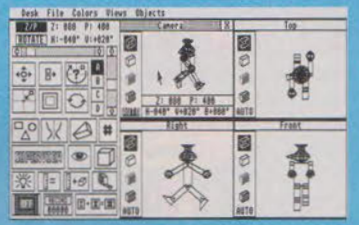
24 'Align' can have one of six parameters - F (front edge), K (back edge), L (left edge) R (right edge), T (top edge) and B (bottom edge). The second parameter is used to line up the two objects (see diagram above).

Cube Body, 14
Clrgrp:Select Body
Axiscale 125,75,200:Align T,zmin
Bounds bxmin,bymin,bzmin,bxmax,
bymax,bzmax

25 The robot's body was created from a 'cube' primitive by use of the 'AXIS SCALE'. This command scales each of the X, Y, Z axes individually. A range of 50 to 200 being permissible.



26 The arms and legs are built in a similar way. 'CLONE' is used to make one or more copies. In this case a left arm and left leg are the copies.



27 In any program 'superview' must supersede the 'Overlay' command, thereby erasing the last overlay frame. 'Rstop' is used to stop the recording and 'End' to finish the program.



28 Experiment with the example programme, replace all 'Record' commands with 'watch on' deleting 'Rstart "A:\(TUTORIAL\ANIM2",IM)". You can save parts of the line code for merging into your own program.

Now that you've got used to the basics of *Cyber Control*, it's time to learn some more advanced techniques. Paul Keller shows you what this package can really do

On these pages we will take you through some of the more progressive applications of *Cyber Control*, starting with some simple examples to show just what difference the script language can make in terms of speed and accuracy for your 3D animations.

The tools that are provided for object creation are invaluable aids, and you could simply borrow some of the examples on disk as templates for your own designs.

The VUSPLINE.CTL and OMNI_EXT.CTL programs are the main tools used for the creation of designs within *Cyber Control*; these designs are much more complex than those you could create with CAD3D2.

There are so many different uses for the script language that any tutorial or manual could only hope to give you an inclination of just what *Control* is capable of. Our step-by-step guides will help you to see some of the power that you have at your fingertips, but the full capacity of the package only becomes apparent as you start to experiment with it.

SOME TIPS

- Keep some spare formatted disks handy.
- Follow all the instructions found in the programs.
- Print out all program listings if you have a printer.
- Use plenty of 'comments' in your programs - these will help you keep track of what's what.
- Use CAD3D2 and a drafting board to help you visualise your working code.
- Save your code before running your programs. Although *Cyber Control* is a very robust language, it could crash if you go beyond some of the maximum values. Remember, it's better to be safe than sorry.

MASTER

STEP BY STEP



1 Close down the *Cyber Control* editor, and from CAD3D2 load some of the custom-designed objects from the Omnifile folder under 'ox_objct'.

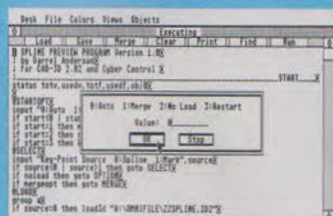
Cube Body, 14
Cltgrp:Select Body
Axiscale 125,75,200:Align T,zmin
Bounds bxmin,bymin,bzmin,bxmax,
bymax,bzmax

2 These custom designs were created with OMNI_EXT.CTL and tested with VUSPLINE.CTL. Such objects are practically impossible to create with CAD3D2 alone.

LOAD 3D FILE

LOAD3D"A:\OMNIFILE\OS_HANDL.3D2"
GROUP A

3 Type the above in the editor and run; then close the editor and view in CAD3D2. The cubes represent spline key points. Save the group as 'ZZSPLINE.3D2'.



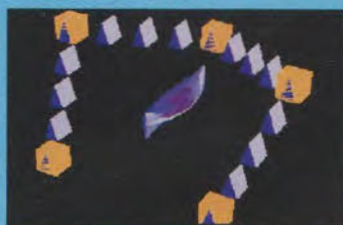
4 Clear the program and load VUSPLINE.CTL; this will search drive A, Omnifile for information. Run VUSPLINE.CTL. Enter 0 for automatic loading.



5 Enter 0 for key-point, enter 0, enter 0 for spline type, enter value 16 for number of points, enter 0 to show key points, enter 0 for camera.



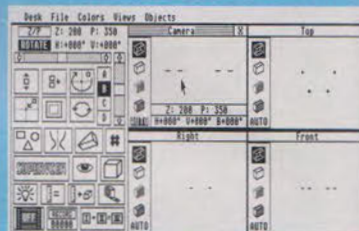
6 Examine spline in CAD3D2's superview; note the 17 spline points. Run the program again, entering the following inputs (in exact order): 2, 0, 2, 0, 5, 50, 0, 0.



7 Enter CAD-3D2 and load FLTCANO.3D2 into workscreen B (icon 7, Group B). Run VUSPLINE and enter 1, 0, 0, 1, 16, 0, 0. Use this method to test camera views or positioning.



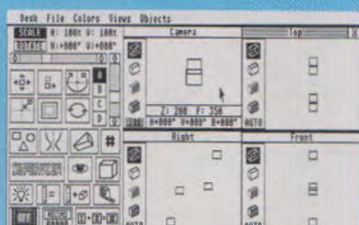
8 From CAD-3D2, select 'NEW' and enter FLTCANO.3D2 in group B again. Run VUSPLINE and enter the following input: 1, 0, 2, 2, 50, 1, 1, 50, 999, 1 to see the camera fly path.



9 Two special types of object are spline key-point - Omni Spline (OS) and cross-section file (Omni Cross section - OC); they can have up to 20 key points. Load OC_WEDGE.3D2



10 Save as 'ZZCROSEC.3D2', run VUSPLINE, enter the same code examples already used, but change the second entry (keypoint source) to 1. ZZCROSEC.3D2 and ZZSPLINE.3D2 are used to load or merge spline files.

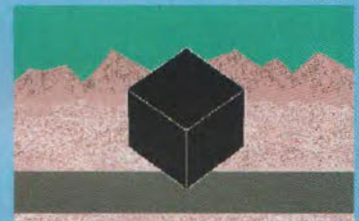
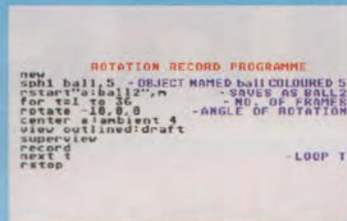
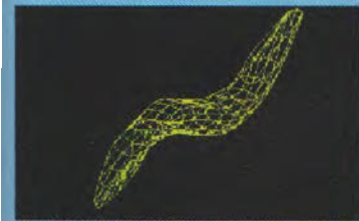


11 Boot up the *Cyber Control* disk, install 'watch buffers off' and 32K script file. Load OS_SCURV.3D2 in CAD3D2 (Group A) and save as 'ZZSPLINE.3D2'. Load OC_WEDGE.3D2 and save as ZZCROSEC.3D2.



12 Enter *Cyber Control* and load OMNI_EXT.CTL. Extension paths can be straight or curved (splined) within this program and its main use is as a custom modelling tool.

ING THE ART

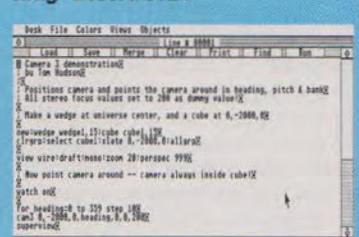
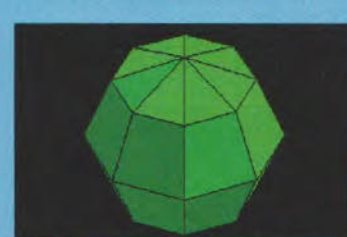
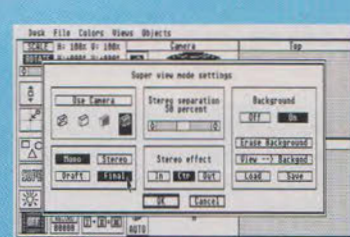


13 Click on 'run' and enter the following inputs in exact order: 15, 10, 0, 0, 2, 1, 100, 10, 100, 0, 20, 100, 20, 0, 0. The seventh entry onwards sets up two splines on the X and Y axes; creation time is five minutes.

17 Run and enter 0 for read data, 0 for datafile ready and 0 to run the program. Line 158 is the start of the read Data sub-routine, and line 161 loads your data file.

21 Cyber Control does for 3D animation what Cyber Paint does for 2D - it takes the drudgery out of work, by calculating intermediate stages for you. Type in the above program.

25 Clear script, type 'loadbakl, "A:\desert\desbak.pc1", y' line 2 'background yes, no' (yes is left background, no is right). Add any object to CAD3D, select superview. Now try running 'desert.CTL'.



14 When creating cross section files always view them from the Top window in CAD3D2 as they run in a clockwise direction. Run and enter the following: 15, 10, 0, 0, 0, 1, 100, 10, 100, 0, 20, 100, 20, 0, 0 using the same files.

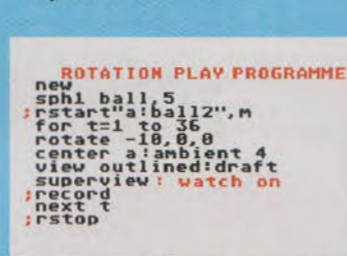
18 To set 'final' and other superview options from within CAD3D2, double-click on the superview icon. From the dialogue box you can change the view mode to your desired settings.

22 Before running check you have about 180K disk space, when finished load into Cyber Paint to view animation. Now you can modify this programme to rotate other shapes as well.

26 Load CAM3DEMO.CTL from the Tom Hudson folder; this is an excellent example of Cyber Control's flying abilities. The command has seven parameters: 'CAM3, camx, camy, camz, heading, pitch, bank, focus'.



```
; Check disk space available
if freedisk>35000 then gosub n room
if freedisk<35000 then gosub p room
end
@ n room
bell:alert "NOT ENOUGH ROOM!"
return
@ p room
bell:alert "PLENTY OF ROOM!"
return
```

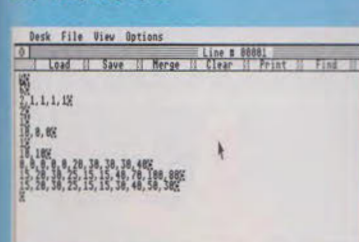


15 Try the following: 15, 10, 0, 1, 0, 0, 2, 2, 0, 1, 100, 10, 100, 0, 20, 100, 20, 0, 0; in CAD3D2 load OS_ARCH.3D2, resave as 'ZZS-PLINE.3D2', run and enter 15, 10, 0, 0, 1, 0, 0, 180, 0, 1, 100, 30, 100, 0, 20, 100, 20, 0, 0.

19 Clear your script and type in the above listing. This shows you how to use the alert box (up to five lines), bell, freedisk and Gosub/Return commands.

23 To view without recording, place Watch on after Superview line, and add a comment command (;) in front of lines 3, 9 and 11 to turn off recording. View as 'wire' and 'draft' for testing.

27 The Rubberneck demo by Darrel Anderson can be loaded and recorded to disk. It takes about five hours to fully record due to the large amount of calculations that have to be performed by your computer.



```
STATUS COMMAND

STATUS s1,s2,s3,s4,s5
PRINT s1,s2,s3,s4,s5

; VAR 1 - TOTAL NO. OF VERTICES
; VAR 2 - NO. OF VERTICES IN USE
; VAR 3 - TOTAL NO. OF FACES
; VAR 4 - NO. OF FACES IN USE
; VAR 5 - NO. OF 3D OBJECTS
```



16 Load OS_RAZOR.3D2 in CAD-3D2 and re-save as 'ZZSPLINE.3D2'. Clear script in Cyber Control, load RAZORDAT.DAT, re-save as 'OX_DATA.DAT', then re-load Omni_Ext.CTL.

20 There are many example listings on disk which are clearly explained: load some and examine their code.

24 Type in the above programme (black text only) to print out the status of CAD-3D2. The five variables are explained above in blue. The maximum number of objects is 80 (in CAD3D2.0).

28 Now you have seen what can be done, and the power and simplicity of the Cyber Control language, create your own Cyber code programs for mega demos or professional use.

On this page we look at some of the special tricks that **Cyber Control** is capable of



TRICKS OF THE TRADE

THE SPLINE COMMAND

The spline is a smooth curve created by defining certain points along a path. It saves time in defining points for a path through space and creates intermediate points for you automatically, from just a few strategic points along your path.

A spline can be used for anything which requires a path of movement, such as object or camera movement, aiming point, object creation or light source movement. The **Cyber Control** commands DEFPT and DEFSPLINE are used to create the spline required.

THE HIERARCHICAL TREE

This is the setting up of trees of objects and the manipulation of them as if they were one object linked together by hinged joints. Before using hierarchical objects you first create a 3D object file containing the objects to be shown in the final image. These are arranged at the starting point of the animation. Throwaway objects (simple shapes like cubes) are included and positioned at the point where the two joined objects pivot, and they are known as joints. Once you have created and saved your 3D file you can set up your hierarchical animation as a tree by the following method:

1. Clear the object tree using TREECLR.
2. Add the objects using TREEADD.
3. Limit movement using LIMIT (optional).
4. Relate objects using RELATE.
5. Specify axis order of rotation using ORDER (optional).
6. Position the joints to be changed using POSITION.
7. Move the tree using TREEMOVE.

STEP BY STEP

```
DEFPT 1,0,0,0:DEFPT 1,20,30,40
DEFSPLINE 1,50,L
FOR n=0 TO 49
PRINT s1x(n),s1y(n),s1z(n):NEXT n:END
```

- 1 Type the above if you have a printer. DEFPT defines the points of the curve. Up to five splines are allowed.

LINEAR (L) EXAMPLE

- 2 The first DEFPT command is for the starting point, and the second is the finishing point of the spline.

B-SPLINE (B) EXAMPLE
SPLINE (S) EXAMPLE

SPLINE FUNCTIONS:

```
s1x() s1y() s1z() - Spline 1
s2x() s2y() s2z() - Spline 2
s3x() s3y() s3z() - Spline 3
s4x() s4y() s4z() - Spline 4
s5x() s5y() s5z() - Spline 5
```

- 4 s1x(), s1y(), s1z() are used for spline one. The program generates a 50-point spline.

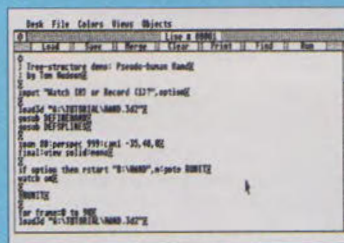
```
NEW:VIEW Wire:ZOOM 40:PERSPEC 999
CUBE cube1,15:SCALE 50
CLONE cube1,cube2:CLONE cube1,cube3
CLAMP:SELECT cube1:SLATE 0,-4000,0
CLAMP:SELECT cube2:SLATE 0,4000,0:align
:DEFINE
DEFPT 1,1000,-1000,700:DEFPT 1,2000,-700,600
DEFPT 1,2000,-3500,500:DEFPT 1,0,-7000,400
DEFPT 1,-1500,0,300:DEFPT 1,0,2500,200
DEFPT 1,2000,4500,100:DEFPT 1,2000,7000,0
DEFSPLINE 1,75,B
HATCH ON
:MOVE
FOR x=0 TO 70
CUBE s1x(x),s1y(x),s1z(x),s1x(x+4),s1y(x+4),s1z(x+4),0
SUPERVIEW
NEXT x
HATCH OFF:END
```

- 5 Now type in this example. The first three lines set up the universe with three cubes, two cloned from line two cube one.

- 6 Lines four and five move the object. 'DEFPT' sets up our spline, 8 DEFPTS = 8 control points for spline 1'.



- 7 Change view 'wire' to outlined, add 'RECOLOR cube 2,5:RECOLOR cube 3,10', after line three.



- 8 Load HAND.CTL. This shows the use of splines and hierarchical tree structure. With a blank disk run the program.



- 9 Enter 1 to record; when finished you can load the DLT file into Cyber Paint to view more quickly and experiment.



- 10 'Load3D"A:\TUTORIAL\HAND.3D2"; it erases memory contents and loads the file.



- 11 Fingers 1-4 use the same spline. For best effect the spline is continuous. (RELATE - objects shown, 80 max).



- 12 The joins are only used as a tool in this program. Experiment with this example and read the listing.



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- L.03 PICTURE MIX: 'Jigsaw puzzle' type game for ages 6+.
- L.04 ROBOT WORDS: 'Hangman' brought up to date.
- L.06 ALPHABET MIX: Simple 'jigsaw puzzle' type game for early learners.
- L.10 DROP DOWN WORDS: Spelling/memory game for youngsters.
- L.12 MATHS FUN 1: Latest Shoestring title for children 4 to 7 years.

PROTECT YOUR DISK COLLECTION

If a virus gets free in your disk collection it can do irreparable damage in a very short time. Don't let it happen to you. Protect yourself with Mike Mee's Professional Virus Killer for just £8.95. The program identifies 529 different types of virus and bootsectors and could save you a lot of heartache if it traps that virus before it breaks free.

TEACH YOURSELF MACHINE CODE

Learn to program like the professionals with ZZ Soft's book and companion disk 'INTRODUCING ATARI ST MACHINE CODE'. Be led, step by step into the secrets of programming the ST in its native 68000 assembly language. All you need to get started right away. £19.95.

AUTHORS

L.A.P.D. are always on the look-out for new material to be included in their comprehensive catalogue of P.D., shareware and licenceware titles. If you have produced anything that you consider worthy of release either as P.D., shareware or licenceware then get in touch to discuss it with us. We can guarantee you a worldwide exposure for your program if it makes the grade.

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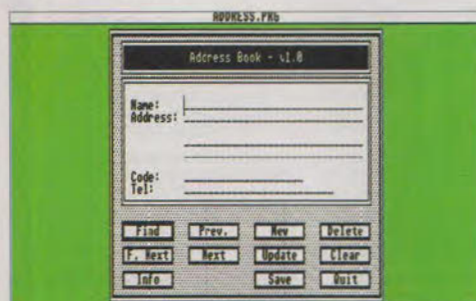
Now you've had a look at what Cyber Control can do, you probably want to know what else we have on offer this month. Here's the lowdown. . .

ON DISK TH

BASIC TUTORIAL

BASIC TUTORIAL • BY OFIR GAL • DISK 1

Another in the series illustrating HiSoft BASIC by Ofir Gal. . .

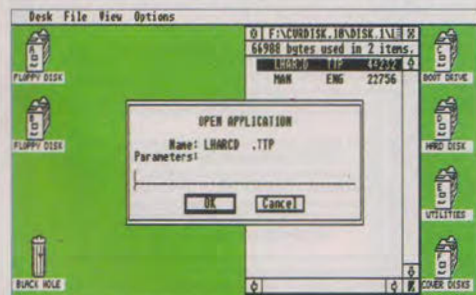


Turn to page 98 for the next part in the excellent **HiSoft BASIC** series. This month, we look at resource files and how to use them in your own programs. The **BASIC** listing is on disk one in the folder BASIC.TUT, along with another folder called DOES_NOT.RUN. This includes the compiled version of ADDRESS.PRGM and its associate resource file. It is not intended to be a fully running program, merely an example of programming.

LZH ARCHIVE

LZH201 • ARCHIVING UTILITY • DISK 1

You can save valuable disk space by archiving your programs using this utility



On page 92, you will find our guide to archiving programs. We have included the program **LHARC.D.TTP** for you to experiment with and store your backup programs in less space, saving valuable

disks. Programs stored in this way cannot be run directly. They need to be restored (extracted) first. **LHARC** will do both. You'll also find, if you use a modem, that the telephone bill is reduced by transferring files in this form.

Programs with the extension .TTP are executable. This means that, when they are run, they present you with a dialogue box, as shown, which expect a set of operating parameters.

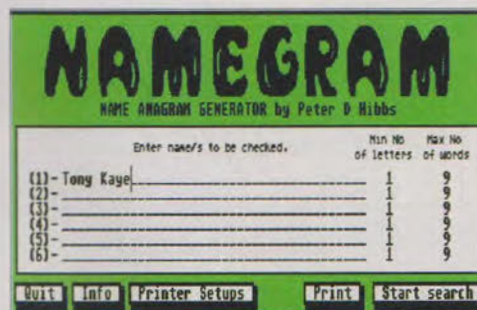
Full instructions for using this program are provided in the accompanying manual and also in the guide to archiving which starts on page 92.

When you first start to use a program like this, it is, unfortunately, all too easy to make a silly mistake and end up losing your files. For this reason, it is advisable to work with backup files first until you have got to grips with the program and are confident that they are stored correctly. You can then start to clean up your disk collection.

NAMEGRAM

NAMEGRAM • EXCLUSIVE UTILITY BY PETER HIBBS • DISK 1

Make anagrams and phrases from names with this great utility



You can really have fun with this one – and the beauty of it is that it's very easy to use. All you need to do is to load the program, type in your name (or any other name, for that matter) and the program will search a fairly comprehensive database of words and create as many anagrams as it can from the letters. The results will be displayed on the screen for you to browse through. There are printer options too so you can keep a copy of your findings. Not the most useful of utilities, this, but it should be good for a laugh. Budding crossword compilers should enjoy it!

SCAN4PIC

SCAN4PIC • SHAREWARE UTILITY • DISK 1

Find your pictures and save them in Degas Elite format

Scan-4-Pic - Written by Stuart Coates

Control keys:

Up/Down Cursors	- Scroll Up/Down Line
Cursors+Shift	- Scroll Up/Down Block
Left/Right	- Move by word
ALT C	- Grab Palette
ALT R	- Reset Palette
ALT B	- Force Odd Address
ALT S	- Save as Degas
ALT L	- Load another File
UNDO	- Quit

Press any Key...

This small program by Stuart Coates allows you to search through programs and look for pictures. They can be saved as **Degas Elite** files and you can then alter them using **Degas**.

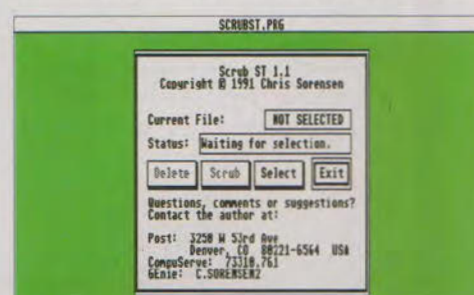
Most art packages can convert formats and if you have trouble, the **Picswitch** utility from last month's cover disk will convert the files to other formats.

Remember that taking screens from commercial games and altering them may infringe copyright. If you are in doubt, don't do it without contacting the copyright owner first.

SCRUB

SCRUB • PD UTILITY • DISK 1

Protect your private data by deleting it with this utility



When you delete a program, the computer simply removes it from the directory. There are programs such as **UNDELETE.TTP** that will recover these and restore them.

IS MONTH

If you want to delete a program completely so that it can't be recovered, then **Scrub** is for you. It overwrites the file with garbage when it deletes it, so if anyone does try to recover and read it, they will be faced with a load of rubbish.

When you select **Scrub** from the program menu, there is no second chance to change your mind before the file is deleted, so be sure you have a backup of it before experimenting.

VIEW

VIEW • SHAREWARE UTILITY • DISK 1

A handy little program for viewing pictures by double-clicking on them. . .



This program comes with its own installation routine to update the DESKTOP.INF file and it will cause **View** to run whenever you double-click on a picture file. This is called VIEW_INF.PRG. Run this and you are presented with the file selector. Simply find the

DESKTOP.INF (or NEWDESK.INF) file on your boot disk and the program will do the rest. To remove this feature, run VIEW_RM.V.PRG and follow the same procedure. The program recognises 14 different picture extensions, so there are very few that won't run.

BOINK

BOINK • SCREEN SAVER • DISK 2

Reduce the chances of damaging your screen with this AUTO folder program. . .



Boink is based on some old demos. You may remember the bouncing ball and Fuji symbol: these, plus a globe, are to be found in this handy screen saver.

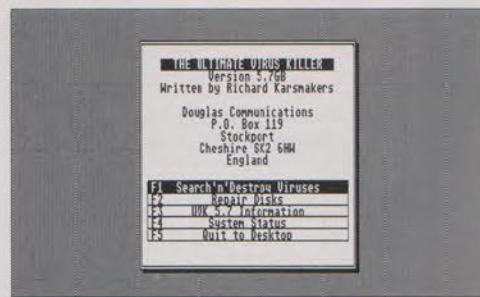
A screen saver stops a constant image being burned onto the screen. As you will probably have noticed, monitors are prone to this if they display the same information for a long time. The configuration program allows you to change the graphic and also set the time delay

before the saver comes into effect. Full details can be found on the Read Me file on the disk. To run **Boink**, simply copy the program BOINK.PRG into a folder called AUTO on the disk that is in the drive when you switch the computer on (or drive C on your hard disk). Reboot the computer and run the configuration program, BOINKCFG.PRG to set it up as you want it.

ULTIMATE VIRUS KILLER

UVK 5.7D • VIRUS KILLING UTILITY DEMO • DISK 2

A demo version of the latest in a long line of impressive virus killers from Richard Karsmakers. . .



UVK is probably the best virus checker and killer available. There are regular updates and a vast range of viruses and disks are recognised. This demo version will not actually kill anything it finds, but it will tell you very quickly if you have a problem.

It is essential that you have a good virus checker. Viruses are creeping in to a lot of disk collections and tend to get transferred from disk to disk without being immediately evident. If you haven't got one, you should get a virus checker fast, before your computer suffers badly.

The full version of **UVK** will check your system and report on the status of your computer before you go any further. Also in the full package is the ability to check commercial games disks.

For more information on viruses and on **Ultimate Virus Killer**, see our feature starting on page 34.

WHICH RESOLUTION?

If you're wondering which resolution you need to run your cover disk programs, here's a brief guide

All of the programs on the cover disks will run in medium resolution.

In addition, some of the programs will run in high or low resolution. These are as follows:

Medium/high res: Namegram, UVK Demo, Family Tree, Multi Label Collection, Searcher and Stats.

Medium/low res: View and Boink.

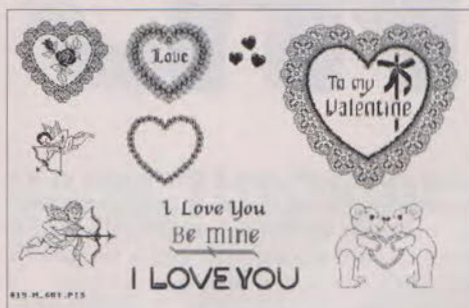
Low only: Mazist and Squish.

All of the other programs will either run in all three resolutions or are not dependent on resolution to operate.

CLIPART

CLIPART • ART FOR DTP • DISK 2

More pictures for you to import into your DTP documents

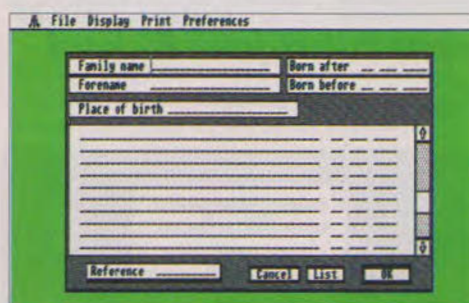


Another page of clip art for you to use with your DTP programs like **Timeworks**. This time, with Valentine's Day approaching, you have some hearts and flowers to make the day special.

FAMILY TREE

FAMILY TREE • GENEALOGY PROGRAM • DISK 2

Build up your own family tree with this utility



This is a complete utility for creating your own family tree. The program does not trace your family history, but stores information and correlates it. Spend some time reading the manual supplied on disk before you begin: it could be the start of a large project.

Printer functions are provided for a basic printer, but if you want a good looking printout, you need GDOS. This is included in the **Timeworks** package from issue seven (November 1992).

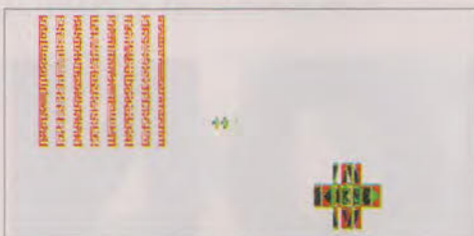
MAZIST

MAZIST • MAZE GENERATION PROGRAM • DISK 2

Are you a fan of mazes? If so, this is for you. If not, then you soon will be

If you like puzzle games, how about a program that allows you to create your own? **Mazist** will create a maze of any size and output it to paper, screen or disk. It was written in **STOS** by Aus-

tralian author Geoff Camp and a fee of £5 is suggested if you like the program.



MULTI LABEL COLLECTION

MLC RSV1 • LABEL PRINTING UTILITY • DISK 2

Custom-made labels at your fingertips

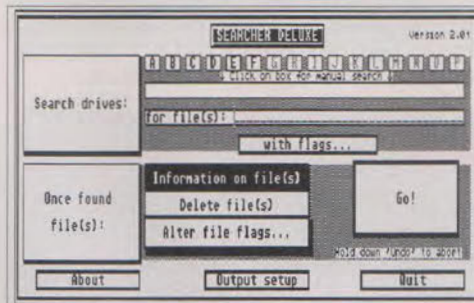


The **Multi Label Collection** has an assortment of labels, which are pre-formatted to make life easier. All that you need to supply is the information and the program will do the rest. Select the style and size of label that you require and type in the data.

SEARCHER

SEARCHER • EXCLUSIVE UTILITY BY ALEX NICHOLS • DISK 2

Find those files fast with this searching utility

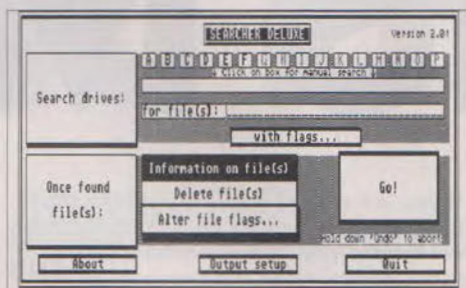


Searcher looks through all of the drives that you select and reports on the path to the specified program. You can use wild cards (* or ?) to replace single words or letters, for example *.AC? will find all of the accessory files on the disk, whether they've been disabled by changing the last letter or not. The program works in medium or high resolution and will handle hard disk partitions of up to 32 Megabytes (available to users of TOS 1.04 and above).

MULTIDESK

MULTIDESK V2.1D • DEMO • ACCESSORY • DISK 2

Organise your accessories with Multidesk



On page 96 you will find a review of **Multidesk Deluxe**. We have included this demo of an earlier version.

Place MULTIDEMO.ACC in the root directory of your boot disk. Switch your computer off and wait five seconds for each half meg of RAM. Switch on again and **Multidesk** is available from the Desk option on the menu bar.

This demo version is not as comprehensive as **Multidesk Deluxe** and has most of its features disabled. It will also stop you using any accessories loaded after about nine minutes.

SQUISH

SQUISH • EXCLUSIVE GAME BY TOM HARRIS • JOYSTICK • DISK 2

Can you squish the bouncers before they squish you?

There are 40 levels in this game: the blocks can be moved by pressing the fire button and pushing against them. Platforms disappear when the timer runs out.

STATS

STATS • UTILITY • DISK 2

Check out your ST with this handy utility

Stats checks your system and reports on it. It tells you what version of TOS you have and other details about memory usage, drives, time and date. Click on the graphs for an explanation of what they mean.

PACKED PROGRAMS

Three programs on this month's disks have been packed using a new method that reduces the size but doesn't increase the loading time. The programs packed are: **Family Tree**, **Stats** and **Multi Label Collection**.

You should not find any difference in the running of these programs, but if you already have the originals, you'll notice how much smaller they are.

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3D Construction Kit 2.0™ is the only virtual reality package available for the home computer.

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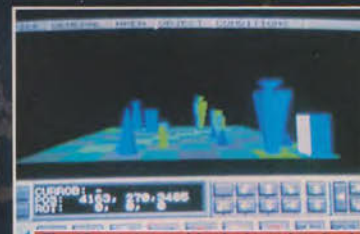
- 3D shape designer/manipulator
- Sound effects manipulator
- Game design utility
- Print out/screen dump option
- Animation programmer
- Computer VCR playback function
- Clip art library with colour catalogue



Design your dream house and fly around for an aerial view



What about the kitchen? With 3D Construction Kit 2.0 it's easy to design one yourself



The 'Create' panel is designed to be icon driven with just a mouse. No complicated programming - it's been done for you!



And once you've designed your object, you can colour it with a comprehensive palette.



Create cars, people - even elephants! They can all be animated to provide realism within the environment you select.



Sim-city? Make your own and look around. And don't forget, 3D Construction Kit 2.0™ has a data disc full of ready made objects to get you up and running..



We know how frustrating it is to buy a piece of software and have to wade through a huge instruction manual just to get started. So we've included a short tutorial video to get you up and running quickly and give you a taste of what 3D Construction Kit 2.0™ is all about. Starting from scratch, the tape will show you how to create, manipulate and join objects, design landscapes and even make your own game! You'll also get a glimpse of some of the fantastic results that can be achieved once you've had a bit of practice.

DOMARK

Designed and Programmed by Incentive Software
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<p>PhiHong</p> <p>Replacement Power Supply for ST, STF and STE</p> <p>£29.95</p> <p>Official Atari Internal Disk Drive £45.00</p> <p>At this price and not at exchange prices</p>	<p> GoldenImage Mouse with Mat. £13.95</p> <p>The Brush Mouse New Model £19.95</p> <p>GoldenImage Hand Scanner £109.00</p> <p>GoldenImage External 3.5" Drive £59.00</p> <p>GoldenImage Optical mouse £23.95</p>	<p>Peripherals</p> <p>Monitor Switch Box Colour/Mono £13.95</p> <p>Multisync Switch Box £29.95</p> <p>Printer Cable £6.00 Null Modem Cable £6.00 Serial Cable £6.00 Philips/Atari STE Cable £10.00 10 Disks £7.00 Cordless Infrared Mouse £45.00</p>	<p>Word Processing Software</p> <p>1St Word + £55.00 Calligrapher Pro £79.00 Calligrapher Gold £109.00 That's Write V1.4 £19.00</p>
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Mega STE Kit, Atari Host-
Adpt and Software

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The Link

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Acknowledged.

*Write a program for our coverdisks and
you could earn up to £500 – with a
minimum payment of £50 for even the
smallest of your best utilities...*

PD

AUTHORS SOUGHT

If you've written any neat programs, fun games, incredible utilities, or anything that you think other people might want to see, why not turn your hard work into hard cash?

Unlike mags that offer to pay you £1000, we won't promise you the earth, but if we use your programs you may get paid a small fee, and if your work is exceptional you could earn up to £500.

You may not rate your small routine that works out every prime number between one and five, but it could be just what somebody else needs. We're also interested in seeing any outstanding PD that hasn't been around for years.

Please put your programs etc, onto a standard ST disk. Full documentation should also be included on the disk.

Send your completed form to: **ST Review Coverdisk Submissions, 26 Brunswick Park Gardens, London N11 1EJ.**

● **ALL READ-ME FILES MUST BE IN ASCII.**

● **PLEASE ENCLOSE A STAMPED ADDRESSED ENVELOPE.**

ST REVIEW

PROGRAM SUBMISSION FORM

NAME.....

ADDRESS.....

.....

.....

PHONE.....

PROGRAM SIZE IN K.....

VERSION OF TOS YOU ARE RUNNING.....

PROGRAM NAME.....

ADDITIONAL FILES REQUIRED BY MAIN PROGRAM

.....

BRIEF SUMMARY OF WHAT MAIN PROGRAM DOES

.....

.....

.....

.....

TYPE OF PROGRAM:

GRAPHICS/MUSIC PACKAGE ☐

GAME ☐

DEMO ☐

PROGRAMMER'S TOOL ☐

PROGRAMMER'S ROUTINE ☐

FUN ☐

OTHER (PLEASE SPECIFY).....

**PLEASE ENSURE THAT YOUR DISKS ARE VIRUS FREE
AND THAT YOUR NAME, ADDRESS, AND PROGRAM
NAME ARE WRITTEN ON THE DISK.**

IMPORTANT

You MUST sign this declaration before your programs will be considered: "The above named program(s) are submitted for exclusive publication in ATARI ST REVIEW magazine. It/they are wholly my own work and I agree to indemnify EMAP Images against any possible legal action should copyright problems arise.

SIGNED.....

DATE.....



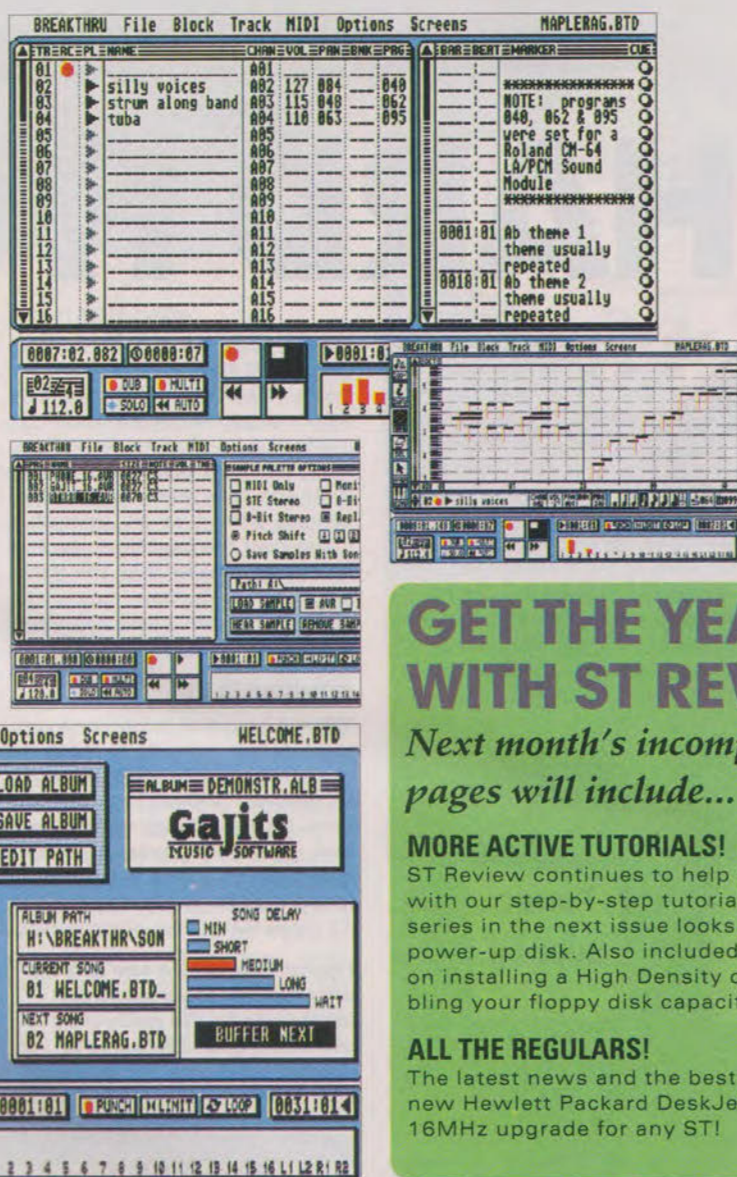
NEXT MONTH

TIME FOR A BREAKTHROUGH - GAJITS BREAKTHRU SEQUENCER, THAT IS!

Breakthru is the follow-up to Gajits' best selling sequencers, *Sequencer One* and *Sequencer One Plus*. Best of all, you don't need to have any music equipment to use it! Running in mono or colour, it has a sample playback feature which lets you play up to four samples at once and we've even included some sampled sounds on our cover disk for you to play around with!

The demo allows you to record and save your songs, and then load back in the first 12 bars. Not to worry - if you like Breakthru and buy the full version, your songs will load in their entirety! Requires 1 MB to run.

The second cover disk will have a superb game along with a smattering of the usual, high-quality ST Review utilities.



DTP SPECIAL!

Can a publishing company use Atari STs and TTs exclusively to produce its range of magazines? We think it can! Next issue we give you the lowdown on one such professional company, the equipment they use and how they put it into action.

How do the various DTP programs on the ST compare against each other? We look at a selection of them, with a package to suit every pocket and most equipment set-ups, and give you our honest, unbiased opinion.

GET THE YEAR MOVING WITH ST REVIEW

Next month's incomparable editorial pages will include...

MORE ACTIVE TUTORIALS!

ST Review continues to help you get the best out of your ST with our step-by-step tutorials, and the Problem Solved series in the next issue looks at using the Auto Folder on a power-up disk. Also included is a photographic walkthrough on installing a High Density disk drive in your ST so doubling your floppy disk capacity!

ALL THE REGULARS!

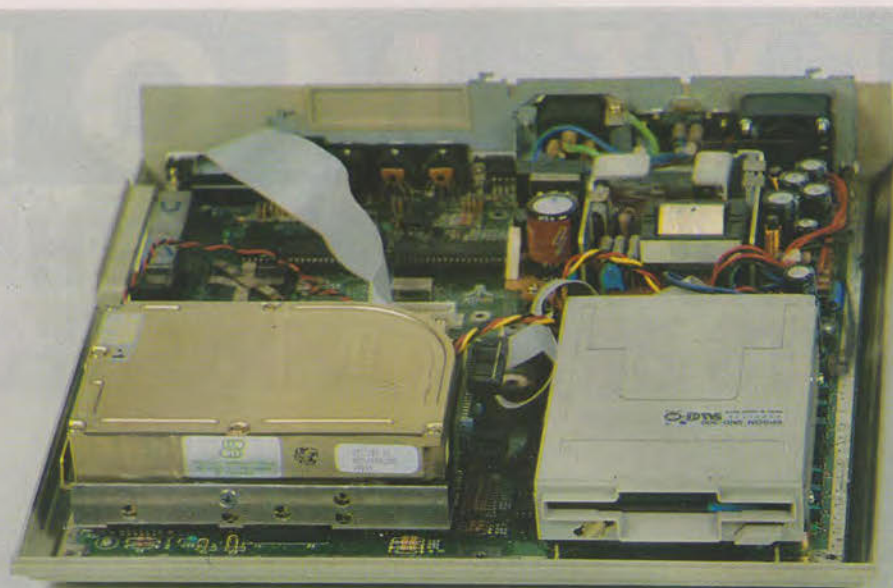
The latest news and the best reviews including the excellent new Hewlett Packard DeskJet portable and a sub-£100 16MHz upgrade for any ST!

**ST REVIEW CONSISTENTLY GIVES YOU THE BEST VALUE
OF ANY ST MAGAZINE**

**THE BEST EDITORIAL, THE BEST COVERDISKS AND
THE BEST COVERAGE FOR ANYONE WITH AN ST!
ON SALE 13TH FEBRUARY - ORDER IT NOW!**

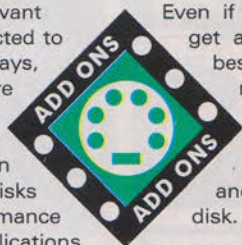
Having trouble sorting out the wheat from the chaff when it comes to hard disks? Ofir Gal ploughs through the facts about hard drives

The Mega ST was designed with an internally fitted hard disk in mind. The ICD ADSCSI Micro fits directly in with no soldering required.



THE HARD FACTS

Everyone seems to want a hard disk connected to their ST these days, mainly because they are fast, can contain information that would require dozens or even hundreds of floppy disks and improve the performance of DTP and other applications. When it comes to buying one, however, you will find yourself confronted with a bewildering choice of brands and sizes and confusing performance figures.



Even if you have managed to get as far as choosing the best hard disk for your needs, there are still many products that aim to help you maintain, use, backup and optimise your hard disk. So where do you start?

WHAT IS A HARD DISK?

A hard disk, like a floppy disk, is a magnetic storage device which means that data is stored on it by electrically creating a magnetic

imprint on its surface. This principle is not new and is used on audio and video cassettes. As its name suggests, a hard disk is made of a tough material and the head which is used to read and write the data doesn't come into contact with it at all. Instead it glides over the metallic surface at a distance smaller than the thickness of a human hair: this prevents it from physically damaging the ultra-sensitive surface.

POWERING UP

When a hard disk is powered up it takes a few seconds to reach its operating speed; this time is sometimes known as spin-up time. Unlike a floppy disk, a hard disk constantly rotates at a fixed speed which varies between different models but is about 10 to 12 times faster than a floppy disk.

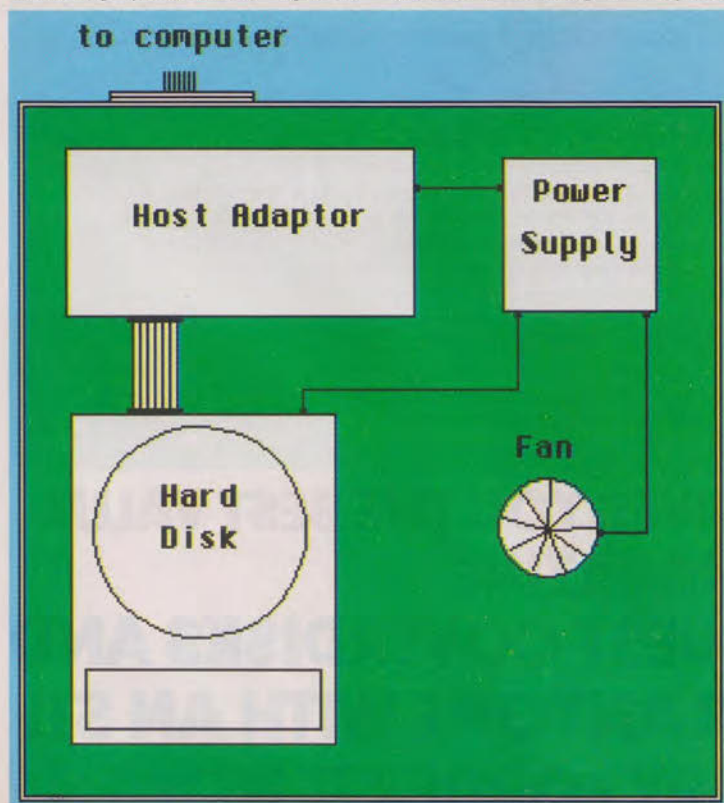
A typical ST-compatible hard drive consists of the disk, power supply, host adaptor and a fan. The quality of the case is often ignored but can be an important factor, suppressing the noise while providing good ventilation.

This constant high rotation speed greatly contributes to its better performance.

Hard disks come in many shapes and sizes, although the three and a half inch design is the most popular. It looks very much like a standard floppy drive but with one significant difference - the disk is not removable and the unit is permanently sealed. Hard disks are very sensitive to heat, vibration and particularly to dust which is why it is not a good idea to try to open the unit.

SPEED AND SIZE

When looking for a new or second-hand hard drive, a major factor to consider is its capacity. Since hard disks are fixed and there is no way of upgrading the mechanism to a higher capacity, the best advice is to buy the biggest drive you can afford. Every 10 Megabytes are roughly equivalent to 14 double-sided, double-density (DSDD) floppies. It may seem at first that 20 or 30 Megabytes are plenty, but once you own a hard disk you tend to

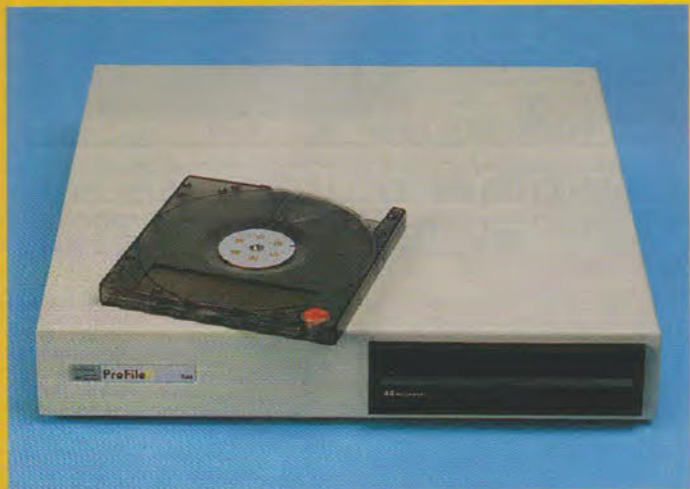


DO YOU NEED A HARD DISK?

Hard disks are expensive and in many cases can cost more than the computer they are connected to, so before you rush out and buy one you really should consider what benefits it will give you. If you use your ST primarily for playing games for example, you should find out whether they can be run from a hard drive because many can't. Apart from computer games, almost every application will run much faster, booting up will be quicker and you could wave goodbye to those piles of floppies cluttering your desk. If you are into DTP, computer graphics, MIDI or programming then a hard disk is almost essential. Once you get used to working with a hard disk you will simply be wondering how you ever managed without it.

REMOVABLE HARD DISKS

A relatively new product is the removable hard drive. This is similar to the standard hard disk, except that the platters are placed in a strong cartridge which can be ejected from the drive. The actual drive is more expensive and slower than fixed hard drives but offers the advantage that once you have filled up one cartridge (typically 44 MB), you simply insert another one and carry on working. Cartridges cost less than £100.



collect programs at an increasing rate and before you know it your hard disk is full. If you use your ST for DTP or MIDI you should really consider 60 or even 100 Megabytes and in any case 40 Megabytes is the bare minimum these days. When assessing your requirements, remember to work into the equation the total space required to install your favourite application on the hard disk. Many programs are designed to take advantage of a hard disk – **First Word Plus** can use a hard disk as extra memory, **Calligrapher** can display outline fonts and most DTP applications will print much faster.

Speed is another factor to consider. While all hard disks are much faster than floppy disk drives, different models vary considerably in speed. The whole issue of performance tends to be rather confusing, but it really needn't be. There are two factors that affect a disk's performance – transfer rate and access time. The transfer rate is the measure of the amount of data which can be read in a second with the average being 500 Kilobytes a second. The average access time is calculated by measuring the time it takes to jump from one location to another on the disk. An average access time of 30ms (milliseconds) is considered fast while direct-to-disk audio recording systems require 12ms or better.

The last thing to remember about speed is that TOS versions before 1.4 are very slow and unreliable as far as disk access goes, and the fastest hard disk run under an early version of TOS will still be very slow.

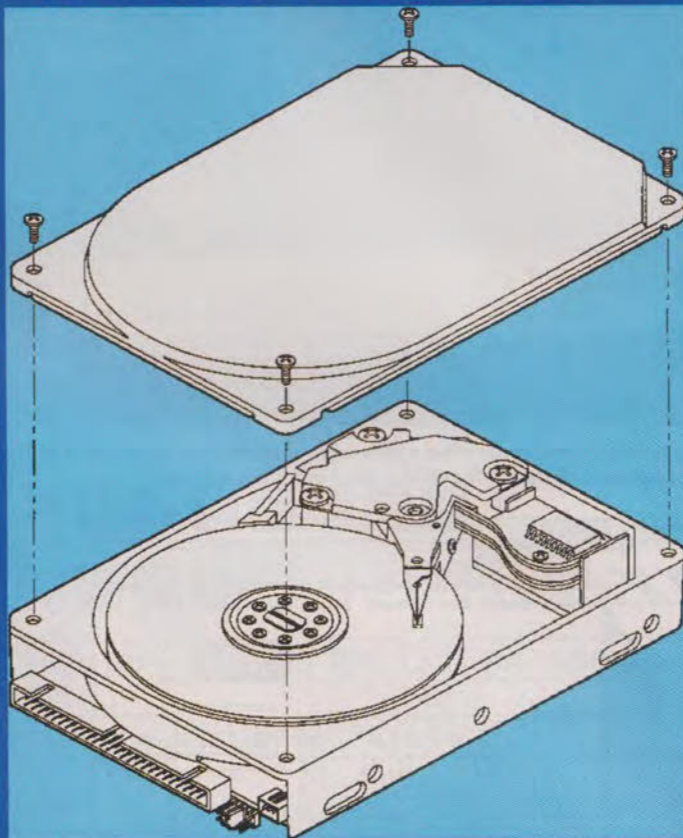
DIY HARD DISK

Modern hard disk mechanisms are SCSI embedded which means that they can simply be plugged into any computer system that supports the SCSI standard. Atari ST models cannot talk to a hard disk directly and require a device called a host adaptor. The adaptor converts the commands issued by the ST when you access the disk to a SCSI code that the hard disk understands. The TT and the new Falcon, however, have built-in SCSI ports, so they do not require a host adaptor.

There are several host adaptors available, notably the ICD ADSCSI which also sports a built-in clock and the ICD Link. It is possible to buy a hard disk mechanism, a power supply and a host adaptor and fit these in a well ventilated metal case. This can save you a few pounds but can be tricky to put together. Most hard disks tend to overheat without a fan which can cause permanent damage to the delicate mechanism. Another possibility is to buy a boxed SCSI drive and fit the ICD Link. The Link does not require any soldering – it simply plugs directly to the socket at the back of the SCSI drive. Users of the Mega ST will be happy to know that Atari has actually designed it so that a hard disk can be fitted internally. The ICD ADSCSI Micro neatly fits with a hard disk into the Mega ST, eliminating the need for a separate case, fan and power supply.

The simplest, and probably best, option is to buy an 'off-the-shelf' ST compatible hard drive. There is a wide choice of brands, capacity and facilities. Most packages are

INSIDE A HARD DISK



A hard disk works in a similar way to a floppy disk with a rigid aluminium platter coated with a magnetic material which rotates at a constant speed of about 3600 rpm. In fact most hard disks have two, four or even more platters, each with its own read/write head which 'floats' over the surface at a distance of 1/100 of a millimeter. Each head is connected to a small and accurate motor which guides it along the platter. Each platter is divided into several hundred tracks, and each track is further divided into 512-byte sectors. The data is written by varying the electrical current that is passed to the head, resulting in an electro-magnetic field. Since the surface of the platter is magnetic, the particles are aligned by this field. Reading the data is the reverse of this process. The orientation of the particles produces a magnetic field which is read by the heads and transformed into an alternating current. Hard disks are so sensitive that even a smoke particle can prevent them from operating; hard disks are therefore permanently sealed and should never be opened.

based around the ICD adaptor and a suitable SCSI mechanism.

The Progate/Protar range of ST hard drives is an example of a well-designed host adaptor and casing which masks most of the noise that the mechanism generates as well as containing a heat controlled fan.

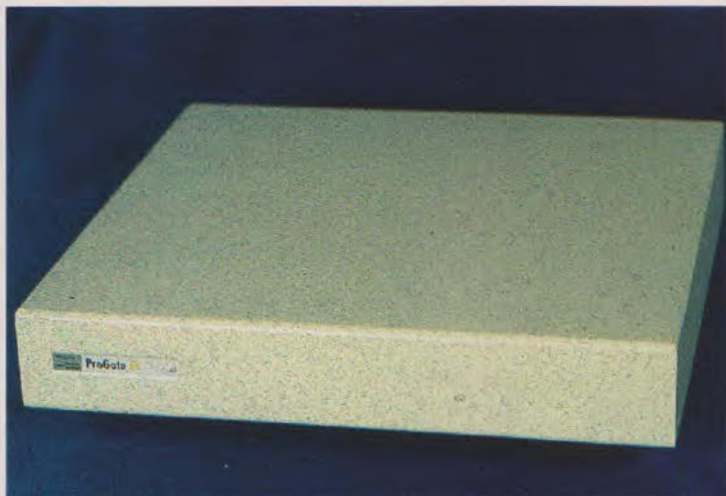
A common misconception is that firms like Gasteiner or Protar actually manufacture the drives. They do not, they simply fit the mechanism, adaptor and so on and provide you with the formatting software. This may seem straightforward, but in fact the case, ventilation and wiring are crucial to reliable performance and are best left to the experts.

SOFTWARE

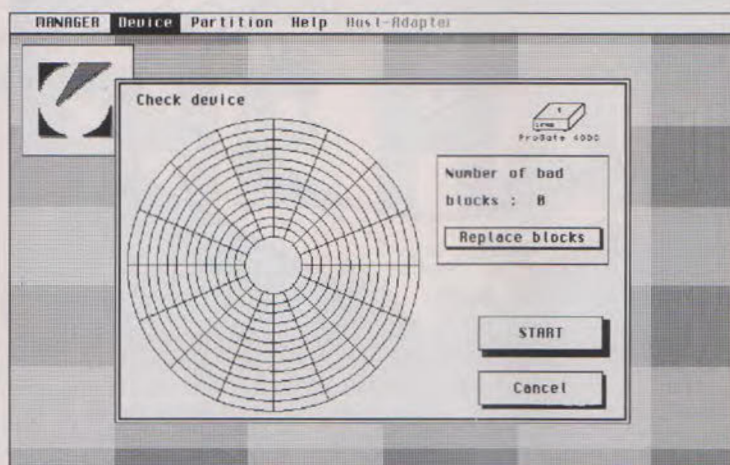
Before you can use a hard disk it must be formatted. This can't be done from the desktop and

requires a special formatting program. This is normally provided with the disk or host adaptor and in addition, Atari produces its own hard disk installation software. Both ICD and Protar have their own formatting and installation packages and while the ICD programs are flexible and loaded with features, Protar has opted for fewer options and a much friendlier, menu-driven program. All of them enable you to format the disk, check it for any physical damage and partition it. The odd bad sector is quite common and is marked by the formatting program as not usable.

It is useful to partition your hard disk – instead of accessing it as one huge disk, it is possible to split it into several partitions which are accessed as drives C, D, E, and so on. This improves disk performance and enables you



The ProGate II 40DC. Protar offers a wide range of high-quality drives with a SCSI thru port and an ID switch. The 40DC is fitted with a Quantum drive.



ProGate drives come with the Protar Manager, a very friendly and easy to use program that formats and partitions.

to separate your files in a logical manner. Partition C can be your boot partition, all your programs and games can go on partition D and so on. If, for some reason, data on the disk becomes corrupted, the damage is normally restricted to one partition, leaving the rest of the disk intact.

Modern hard disks can auto-boot - all your auto folder programs, accessories and desktop settings are loaded from the hard disk whenever you start the computer. This is, of course, much quicker than booting from a floppy. Because the surface of the disk is so delicate, it is essential to park the head when transporting the disk.

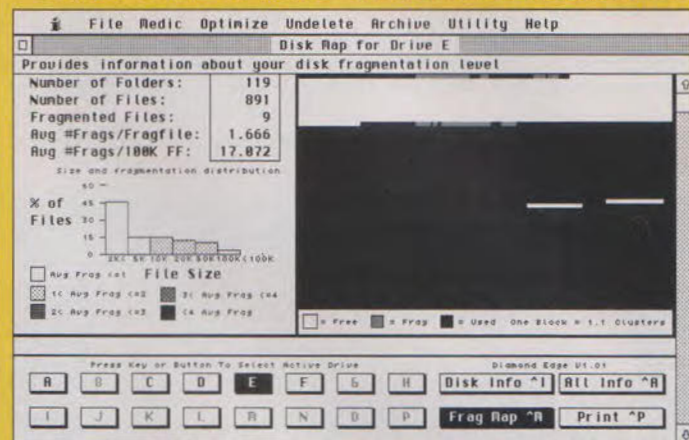
A park program causes the head to move away from the disk into a parking position where it can't damage the surface. Many disks these days are auto-parking - when switched off the head is automatically moved to its 'landing site'.

OTHER FEATURES

There are several other factors to consider when looking for a hard disk, apart from capacity, speed and cost. Many designs now include a built-in cache which can

greatly improve speed. It is also useful to have a 'busy' indicator similar to the one you have for the floppy drive. The ST can be connected to up to eight hard drives at any one time; although this may seem a little excessive, it can be useful for such tasks as backing up your hard disk. This is done by assigning each drive an ID number between zero and seven; if two devices have the same number the system will crash. Every hard disk mechanism

FIRST AID AND MAINTENANCE



If you lose data on your hard disk, it is normally possible to retrieve the files by using a program like Knife ST or Diamond Edge. These programs do require some technical know-how but can be a real lifesaver.

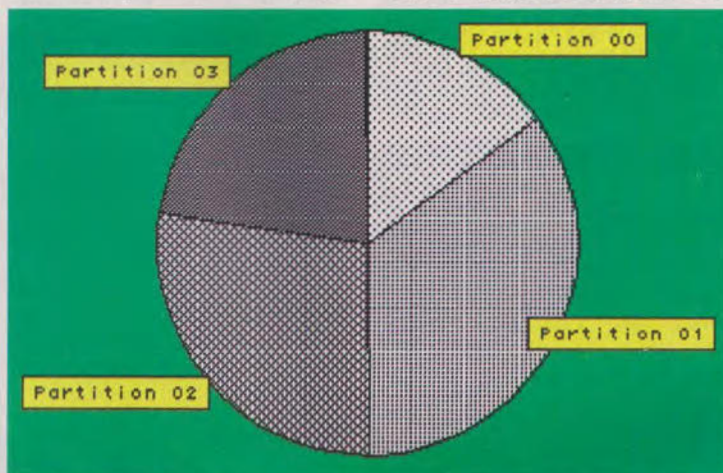
Fragmentation is another problem which these programs can eliminate. The best way to explain fragmentation is by example - say you save a file called DOC1 to disk, then carry on and save DOC2 as well. The two files will be adjacent on the disk where DOC2 starts and where DOC1 ends. If you now load DOC1 and add some text to it then save it again, it will be written to the same position on the disk, but because it is now bigger the additional text will have to be written separately at the end of DOC2. Next time you load DOC1 the head will have to jump over DOC2 which is now stuck in the middle of DOC1, effectively splitting it in two. All this is invisible and goes unnoticed until the files are so fragmented that the disk is noticeably slower. This is where a program such as Diamond Edge can be helpful - it reorganises the data on disk so that all files follow a linear order. This process is called de-fragmentation and can drastically improve disk speed. Alternatively, you can backup the contents of the disk, delete all files on it and then restore the files from the backup. This, of course, takes much longer.

supports this facility, but you should look for an external switch to do the job, otherwise you will need to disassemble the unit each time you have to change the ID number. To be able to connect more than one hard drive to your ST the drives must have a thru port, enabling you to chain the units. This is also important if you have, or plan to use, a laser printer which normally plugs into the hard disk port of the ST. The ProGate II range also sports a SCSI

thru port, enabling you to connect additional non-ST SCSI drives without the need for more host adaptors.

BACKUP

No matter how careful you are and how reliable your hard disk is, the danger of losing your data is always there. Unlike a floppy, where you might lose a program or a few files, if your hard drive goes wrong you may lose days or even months of work along with your favourite programs. The only way to prevent this from happening is to regularly backup your data. The simplest way of doing this is to manually copy the files from the hard disk to a pile of floppy disks. Alternatively, you could use one of the many backup programs available commercially or as shareware. These programs allow you to decide which files should be backed up via the use of name masks. You can, for example, decide to exclude all files that end with the extension BAK from the backup by specifying the exclude mask *.BAK. Most programs will enable you to use a combination of include and exclude masks so that only important files will be copied to the



A hard disk is best partitioned and the Protar Manager provides a visual interface which enables you to 'cut the cake'.

floppy disks. As a result, the backup procedure is simpler and takes less time. In addition, most backup programs use all sorts of programming tricks to improve the reliability and speed of the backup even further.

VAULTING AHEAD

Vault is a firm favourite of many hard disk users, mainly because it's fast, easy to use and is available in the public domain. **Diamond Back** is by far the best commercial backup program offering several methods of backup, extra verifying of files and above all data compression.

Due to its clever archiving method, **Diamond Back** requires almost half the number of floppies per backup, thus speeding up the process and saving you disks at the same time.

Both **Vault** and **Diamond Back** use an incremental backup method which means that only files that have been modified since the previous backup are copied. Typically, an incremental backup is performed every day and takes less than five minutes! This has to be much better than manual copying...

ALTERNATIVELY

There are other options. Both ICD and Protar produce a tape streamer which backs up the contents of the hard disk to tape. The biggest advantage of a tape streamer is that you don't have to swap disks - you just load the streamer pro-

gram hit the button and leave the program to do the rest. Comfort, however, comes at a price and a tape streamer can be very expensive: expect to pay £500 or more. **Diamond Back**, on the other hand, costs less than £40 and provides a cost effective alternative.

The latest version of **Diamond Back** includes an option to back up files to the new floptical drives. These will store 21 Megabytes each, so even a 100 Megabyte drive will only need five disks for a full backup.

PUBLIC PROPERTY

One popular package that is available in the public domain is **Turtle**. This was in the most popular and widely used hard disk backup utility for a long time. **Turtle** works by creating a RAMdisk that is the size of a double-sided floppy disk and then fills it with the backup information. This information is then transferred to your floppy.

Turtle and **Vault** are available from most PD libraries. **Diamond Back II** is available from HiSoft - see the review of **Diamond Edge** on page 32 for a contact number.

Thanks to Karl Brandt from System Solutions, Eric Northwood from MIDI Help! and Nick Hill from HCS for their technical help in preparing this article.

The System Solutions hard disk is an example of a well-constructed drive. This is a standard SCSI drive, and it interfaces with the ST via the ICD Link which simply plugs directly to the back of the unit. Capacity ranges from 40MB to 240MB with a wide choice of disk makes, although Quantum is a favourite. A heat-controlled fan is fitted.

CACHING

COLD HARD CACHE 4.0

PERFORMANCE:

Average access time: 10 ms
Approx. elapsed read time: 9 sec
Approx. time savings: 7 sec

STATS:	Tries	Hits	%
Reads:	1510	533	35.2
Write Optimizations:	221		

SETTINGS:

Cache/Spool Buffers: 256

Max. Multi-Sector Read Size: 16

Drives cached:

A B C D E F G H
I J K L M N O P

Save

Spooler: ☒ ON ☐ OFF

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Whenever you access a hard or floppy disk, the operating system must first check the directory part of the disk. The directory tells TOS where files are placed on the disk, where it can find some empty space to write to and so on. Since the directory is located in the very first sectors, the heads need to travel some distance. A disk cache stores the directory in memory, so the heads travel less, resulting in a much improved access time. Depending on the effectiveness of the cache and the size of files you are saving or loading, a disk cache can save anything between 25 per cent to 75 per cent of disk read/write time. There are many excellent disk caching programs available from PD libraries, and some hard disk packages include a cache within the installation program. The only disadvantage of a disk cache is that it uses some memory - this is usually around 32K, but it can be more.

PRICES

PROGATE II

The Progate II range uses a Protar host adaptor and a range of Seagate and Quantum drives. The DC range has a built in disk cache.

Progate II 20 - £210

Progate II 40 - £295

Progate II 40DC - £339

Progate II 100DC - £479

SYSTEM SOLUTIONS

This range comprises of a SCSI mechanism with an ICD Link. This enables you to use the drive with other computers which support the SCSI protocol.

40MB - £359

80MB - £399

120MB - £449



Lost or damaged files? Hard disk corrupt? Ofir Gal looks at Diamond Edge, a potential solution to the hazards of data storage...

CUTTING

An excellent data recovery package
Includes disk optimise facility
Works with floppies
On-line help

PROS AND CONS

A little tricky to get to grips with

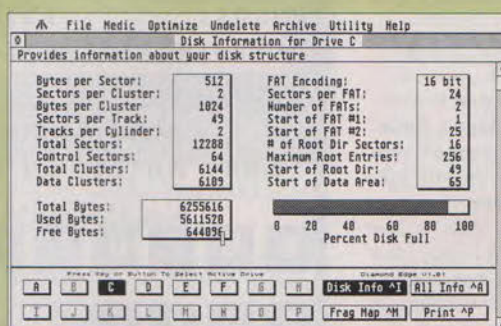
"An easy to use, yet powerful data recovery package"

NAME: DIAMOND EDGE
COMPANY: HISOFT
CONTACT: 0525 718181

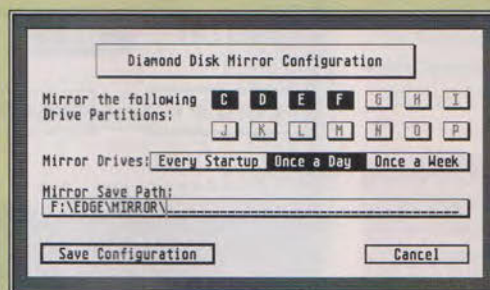
PRICE: £49.95
RELEASE DATE: OUT NOW
MIN MEMORY: 0.5 MB
SYSTEM: ALL STS, HIGH AND MEDIUM RESOLUTION

EASE OF USE ★★★★★
DOCUMENTATION ★★★★★
EFFECTIVENESS ★★★★★
VALUE FOR MONEY ★★★★★

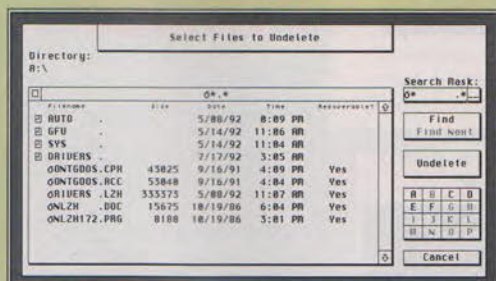
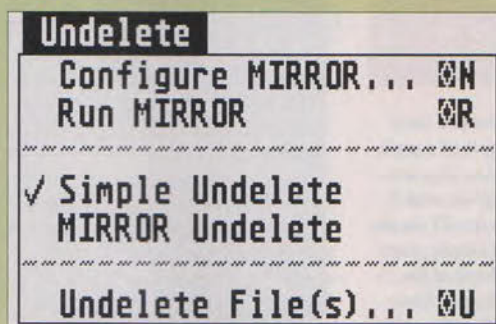
OVERALL **95%**



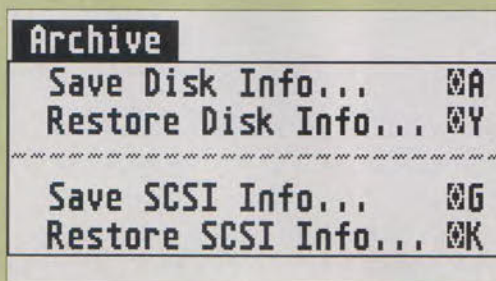
The Disk Info window displays vital statistics about disk structure, such as bytes, sectors and clusters.



The Diamond Disk Mirror is a small auto-program that keeps your disk in check. It can be set to copy the FAT of each drive every day, once a week, or even every time you start the computer. This process only takes a couple of seconds and can help you recover data in the future. Simple Undelete looks at the disk's standard FAT while Mirror Undelete goes to the mirror, or copy FAT. If you've had a serious disk crash, the Mirror FAT is less likely to have been affected.



If you accidentally delete an important file, Diamond Edge can often cover it.



The Save Disk Info option saves partition information which includes the boot sector, FAT and Directory sectors. Save SCSI Info saves sector 0 which contains essential information on the disk's structure.

Despite the relative reliability of hard disks there are still plenty of things that can go wrong with them. A power cut or crash while accessing the disk or even a bug in a program can cause seemingly irreparable damage to a file. **Diamond Edge**, from HiSoft, is the latest program specifically designed to help you and your files survive these nightmare scenarios.

WHAT YOU GET

Diamond Edge is the second hard disk utility to hit the market from Oregon Research Associates, the first being **Diamond Back**. The package consists of one floppy disk and a very detailed 75-page ring-bound manual.

The install program, which registers your name address and serial number into the program code, has to be to run before anything else. This form of copy-protection is becoming popular nowadays and is certainly much better than disk protection.

Diamond Edge kicks off by displaying a breakdown of your hard disk including the total number of bytes used and free space as well as the location on disk of the directory, FAT tables and data. Knowing the location of the disk contents can help you recover data with disk editors like Knife ST or MemFile. In addition you can select the All Info button which displays information about all active drives. The Fragmentation Map button scans the selected drive and displays both graphically and numerically statistics about disk fragmentation.

The graphic display is especially good and really gives you an idea about level of fragmentation. The graphics are generated in the same order that the actual directory search occurs, so you can see how much travelling the heads have to do to read the data. Statistics include total number of fragmented files and the average number of fragments per file. The last button simply prints a hard copy of the display. **Diamond Edge** also includes warning modes which alert the user before any action that could risk data on disk.

DISK MEDIC

To actually check and repair the disk you must access the Medic menu. Here you can set various

G E D G E



options as well as create a checksum validation file. Most functions are there to help prevent disasters. Map Bad, for instance, scans the drive for bad sectors and allows for multiple passes, providing a very high degree of storage safety. Validation files are a collection of check sums, one per disk file, which can be used to validate a restore job. If the check sums of the original and restored files are the same, the restore has probably been successful.

When testing the disk structure you can either opt for the selected drive or multiple drives. The disk medic then goes to work testing the disk, checking the directory, comparing the FATs and so on. If any errors are found you can view them, fix or exit without change. Alternatively you can select Auto-Fix Errors which instructs the program to deal with problems as it finds them.

Most hard disk utilities have a facility to check for bad sectors and mark them as unusable. **Diamond Edge** takes this a step further. You have a choice of three different methods of checking for bad sectors and in addition you can specify the number of passes the program performs. The higher the number, the more reliable the check is and the longer it takes to do the job. **Diamond Edge** also includes full hard disk partitioning facilities which allow for both GEM and BGM partitions.

OPTIMISING THE DRIVE

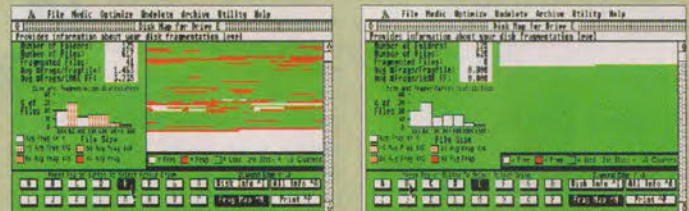
Disk fragmentation is a double problem for hard disk users as it slows down disk access and also makes data recovery more difficult. **Diamond Edge** supports

extensive defragmentation facilities optimising the disk for reading or writing and even remove deleted entries. You also have the choice between a full optimisation and a function which only defragments free space. Whichever you select, **Diamond Edge** performs a full disk check before attempting to optimise the disk. If any lost clusters are found during optimisation, they can be written to a separate file which can be helpful for later data recovery.

UNDELETE

When you delete a file from a hard disk, TOS simply changes the first character of the filename to 'c'. This marks the file as deleted but the data remains intact. The next time you save anything to the disk, the space used by the deleted file will be considered free and available to write to. If the file was not fragmented and you have not tried to write anything to disk since you have deleted it, to undelete it you would simply need to change the 'c' back to a normal character. **Diamond Edge** provides you with two methods of undeleting files. The first is as described above, the second method involves the additional program Disk Mirror. This is placed in the Auto folder and stores important data about your disk structure at pre-defined intervals onto a disk file. When you attempt to undelete a file, **Diamond Edge** will use this information, increasing the chances for a successful recovery.

Diamond Edge is the ideal companion to **Diamond Back**, providing you with an easy to use yet very powerful disk optimiser and data recovery utility.



Before and after... **Diamond Edge** deals with fragmented files in several different ways.

Optimize

✓ Full Optimization
Compress Free Space

✓ Prioritize Reading
Prioritize Writing

Auto-Fix Errors

✓ Ignore Illegal Names

✓ Save Lost Clusters

✓ Remove Deleted

Optimize Drive C

Optimize Multiple

Enter the doctor! The options in the Medic menu can be used to test your disk for bad sectors and map them out. It will also check file structures and correct them if they are faulty.

The Optimisation options can be used to improve your disk's performance by ensuring the continuity of sectors for each file.

Auto-Fix Errors

✓ Ignore Illegal Names

✓ Save Lost Clusters

Test Disk Structure: C

Test Multiple...

Map Bad Drive C

Map Bad Multiple...

Create CRC File

Create ✓ Sum File

Validate Files...

Partition Hard Disk...

THE ANATOMY OF A HARD DISK

A disk is divided into sectors, and using a standard format a floppy disk contains 1440 sectors, while the number on a hard disk depends on its capacity. The standard size of a sector is 512 bytes but it can be as large as 4k or even more. The first sector contains the important data about the partitioning of the disk and also a pointer to the bad sectors list. This sector is not accessed by the user under normal circumstances. From that point each partition is treated as an independent drive. The first sector on each partition is the boot sector which is followed by the two FATs (File Allocation Tables) and the root directory. The FAT contains information on the locations of all files on the drive. Coupled with the directory it provides TOS with necessary information it needs to be able to read and write to the disk. Since the FAT is so important, TOS maintains two identical FATs in case one gets corrupted. Whenever data on disk is modified by saving files or deleting them, the directory and FAT must be updated. If there is an inconsistency between the directory, FAT and files **Diamond Edge** will normally be able to cure the problem.

FRAGMENTATION

When you load a file the operating system looks at the directory and by locating the file by name it finds its position in the FAT. If the file is fragmented, the FAT will contain more data about the location of each fragment. Directory fragmentation can occur as you write more files to the disk. At some point the allocated directory space will be exceeded and the directory will have to be split. File fragmentation happens when files are reloaded edited and then saved again. If the new file is bigger than its previous version, the excess portion of the file will have to be continued at a different disk location. The more you use the disk, the worse fragmentation will become. This means that the head has to move back and forth along the disk while reading a file, slowing down disk access. Fragmentation also complicates data recovery, sometimes to a point where a full recovery is impossible.

GET 'EM ON

If you're using an ST, sooner or later, you're bound to be hit by a virus. Vic Lennard looks at what they are, what they do and how to call in the ST's equivalent of Rencokil....

COMMON VIRUSES

The most common bootsector virus on the ST is the Signum/BPL variety. This is more usually known as the Key virus because, on decoding the virus program, it was found that the virus does absolutely nothing except sit and wait for a particular piece of code. At this point it commits whatever dastardly deed the second piece of code instructs it to do and then erases itself. Most people view the Signum virus as being harmless, but organisations such as MIDHelp! doesn't. It has had over 60 Signum-virused disks with similar problems; confused File Allocation Table and over-written Directories.

The Ghost virus is immune to warm resets and changes the direction of the mouse movement. Unfortunately, disks cannot be immunised against it but it cannot copy itself to a hard drive.

Another common one is the Goblin virus which is also warm reset-proof. After 16 copies have been made, it starts to change the screen display: after 128 copies, it flashes the comment "The Green Goblins Strike Again" onto the screen. Disks can be immunised against it and, again, it cannot transfer itself to a hard drive.

You certainly know when you've been hit by a virus. Something along the lines of sticking your start up disk in the drive, turning on and finding that all is not as it should be. It might be something quite blatant like a message flashing up on screen telling you that "The Green Goblins Strike Again" or the reversing of the direction of the mouse cursor. Such viruses, the above two of which are the Green Goblin and Ghost viruses respectively, are benign in comparison with some which simply zero various sectors on a disk and render it totally useless.

So what is a virus? I daresay you've seen the blind panic which besets computer users before any Friday the 13th and probably wondered what it's about.

A virus is a program generally written with one intent in mind — to damage data on your computer system. Perhaps we are lucky with the ST as there are only a few seriously evil viruses around, a situation which is quite different on the Apple Mac and PC. The latter has the deadly Jerusalem virus which lays dormant and then strikes on any Friday which falls on the 13th of the month. Many PC users actually change the system date on the 12th so that the computer never registers the 13th!

BOOTSECTOR VIRUSES

The most common type of ST virus is of the bootsector variety. When you put a disk into your disk drive and power up your machine, the first thing the computer does is to look at the bootsector of the disk in drive A to see the configuration of that disk. This includes the number of sides and sectors, and as the ST disk format is based on the PC MS-DOS version, the computer will run any program which exists in the bootsector. This is commonly called executable code.

A virus will load itself into

the ST's RAM and become memory-resident. It transfers by monitoring all disk drive accesses. When you put a non-write-protected disk into the drive, the virus checks to see if the disk is already virused. If it isn't, it makes a copy of itself to the bootsector of that disk — so if you use it to start up with, the virus will again be loaded into the ST's memory and will continue to duplicate itself. If the disk is already virused, generally nothing happens.

WHAT DOES A VIRUS DO?

Different viruses do different things. Many have an internal counter which increases each time a copy is made. Once the counter reaches a certain value, the virus will perform whatever it is programmed to

A look at the bootsector with the Mutil disk utility shows that there is code written here. The first two bytes, 60 1C point to it being the Ghost virus.

Desk	Modify	Sector	Attributes
0000:	60 1C 90 49 42 40 20 20-45	0B 77 00 02 02 01 00	..IBM E.W....
0010:	02 70 00 40 06 F9 03 00-0A	00 02 00 00 00 26 3C	.p.e.....&<
0020:	00 00 00 D6 43 F8 01 40-45	FA FF F4 24 12 84 91	...C...E...\$...
0030:	67 00 00 3A 20 3C 31 41-59	26 42 81 00 08 04 26	g...<1AY&...&
0040:	66 00 00 06 22 38 04 2A-41	FA 00 24 20 81 24 3C	f...!8.*A..\$ <\$
0050:	00 00 01 94 21 C2 04 2A-21	C0 04 26 32 0A 51 C8	...!*!..&2.0.
0060:	FF FC 21 FC FF FF FB-02	EA 61 64 4E 75 00 00	!.....adNu..
0070:	00 00 22 78 04 2E 93 FC-00	00 00 00 93 FC 00 00	..!x.....4V...6..B
0080:	02 00 22 09 22 FC 12-34	56 22 C1 47 FA 00 42	..!x.....4V...6..B
0090:	49 FA 00 5A 32 0B 07 CC-6D	FA 47 FF 82 22 CB	I..ZZ...m..6..."
00A0:	26 41 42 40 34 3C 00 FE-00	58 51 CA FF FC 34 3C	&AB04<...[0...4<
00B0:	56 78 94 40 36 82 21 FC-00	00 00 00 04 26 22 7A	Vx.e6.!.....&"z
00C0:	FF AE 03 FC 00 00 00-66	00 00 04 4E D6 4E D1f...N.N.
00D0:	21 FC 31 41 59 26 04 26-20	38 04 72 41 F8 02 E2	!..1AY& & 8.rA..
00E0:	20 80 41 F8 02 0E 21 C8-04	72 4E 75 30 2F 00 04	.A...!rNu0/..
00F0:	80 7C 00 02 6C 00 00 C8-48	E7 7D FF 3E 00 2F 3C	!...!..N..>..</>

Cursor at 0000: Hex=60 Bin=01100000 Dec=896 Asc=^

Track:

Drive: A

Sector:

UVK extensive system check.... No Blitter Activated GDOS not Installed

TOS version: 1.04 TOS date: 04-06-1989 GEMDOS version: 1.5 Turbodos Off

Memory configuration/trap vectors: System variable contents:

Memory configuration	: 2.5 Mb	Resvector	(\$42A) :	\$000000 (1)
Top of physical RAM	: \$280000 (1)	Hdv_init	(\$46A) :	\$FC16BA (1)
Bottom of user RAM	: \$00A84E (1)	Hdv_bpb	(\$472) :	\$00A890 (77)
GEMDOS trap #1 vector	: \$FC920B (1)	Hdv_rm	(\$476) :	\$00A8A0 (77)
BIOS trap #13 vector	: \$FC07CA (1)	Hdv_boot	(\$47A) :	\$FC1CC6 (1)
XBIOS trap #14 vector	: \$FC07C4 (1)	Hdv_mediach	(\$47E) :	\$00A8B0 (77)

Floppy-hard-or RAMdisks attached (0=not attached; 1=attached)

ABCDEFGHIJKLNMOP
 ~~~~~  
 1111110000000000

REVERSE = Suspicious! Refer to manual for explanation of numbers

No reset-proof programs in memory!

No Virus in Keyboard Processor!

*UVK runs a full system check including an inspection of the keyboard processor.*



# THE RUN

## CAN BOOTSECTOR VIRUSES TRANSFER TO A HARD DRIVE?

It's always been thought that bootsector viruses could not transfer to a hard drive, but this appears to be untrue in a small number of circumstances. The C'T virus is one such example, another virus whose code was published in a German magazine (this one being *Computer & Technik*). That said, it is easy for a virus-killing program to check for it and to delete the code.

The other bootsector virus which can copy itself to a hard drive is the Media Change virus, which is also warm reset-proof. Triggering into action on every fifth copy, it changes the colour of the on-screen text to the background colour so making it invisible. This is relatively harmless, and the virus can again be easily deleted by a virus killer.

## LINK VIRUSES

A decent virus-killing program can detect most bootsector viruses and send them to the great virus-keeper in the sky. This is mainly because it knows exactly where to look.

A more devious method is to embed the virus code into a file. Destruction of such a Link virus is more difficult and most virus-killing programs will erase the entire infected file.

While there are only five known Link viruses, one in particular occurs more often. Milzbrand is similar to the C'T bootsector virus, and emanated from the same German magazine, *Computer & Technik*. If the date stamp of the computer is set to 1987, Track 0 is zapped and filled with the message "Dies ist ein Virus!", German for "This is a virus!". Nice of the programmers to tell you ...

## ENTER THE ULTIMATE VIRUS KILLER...

While there are a few public domain virus-killing utilities, there's only one professional package available for the ST and that's *UVK*, the *Ultimate Virus Killer*. Frequently updated, *ST Review* has included an exclusive demo of the latest

version, 5.7, on the front cover disk.

Version 5.5 can recognise 66 different bootsector viruses and five different Link viruses, along with 89 special applications which include versions of TOS which run from the bootsector.

If a virus writes itself to the bootsector, *UVK* will erase all executable code, not just the virus, and this could include code for, say, a game. By telling *UVK* which game the disk is for, the original data will be written back to the bootsector and the game will again be functional. Luckily, *UVK* can repair 604 types of bootsector.

As a virus may have already been loaded into memory, the first thing that *UVK* does is to run a thorough system check. Anything out of the ordinary will show up in inverse type and while earlier versions couldn't pick up, say, a 2.5 Mbyte ST, the current version is able to do so.

## WHAT DOES UVK DO WHEN A DISK HAS A VIRUS?

If you place a virus disk in the drive and run *UVK*, the first thing you'll see is the screen flash followed by an alert box giving information on what type of virus it is.

Once a virus has been detected, *UVK* has the wherewithall to both eradicate it and, in many cases, to immunise the disk against it happening again.

As most viruses leave a calling card, a few bytes which indicate a particular virus, a virus will check for those bytes before infecting the disk. If the bytes exist, it will generally not bother to rewrite itself, assuming instead that the entire code is already in the bootsector. By ensuring that certain bytes are written to the bootsector when eradicating a virus, *UVK* fools the virus into believing that all of the code is still there. Clever stuff.

## HOW CAN I AVOID A VIRUS ATTACK?

You could keep the write protect tab open all of the time, but this makes saving data to disk a bit awkward! The first thing to do is to get a decent

virus killer and to check every disk in your collection, killing any viruses that you may find. If you use *UVK*, you should be able to reinstate any special bootsectors as you go.

If you do find a virus, turn your ST off for at least 20 seconds as it takes this time for the ST's memory to be completely flushed, which destroys the virus.

The main thing is to check every unknown disk before running it on your computer. Another alternative is to set up a boot disk containing all of your autoloader programs and desk accessories, virus check it, flick the write protect tab to open and then always boot up your computer with this one disk. A clean boot disk of this type will protect you against any bootsector viruses.

One problem is that many people cry virus the moment something untoward happens to a program or data on a disk. File names in gibberish are as likely to be caused by a

```
--UVK Recognition Statistics--
1205 Different bootsectors
66 Bootsector viruses
36 Anti-viruses
5 Link viruses
4 Harmless file types
89 Special applications
-----UVK Repair Statistics-----
604 Different bootsectors
```

```
F1      OK
F2      Cancel
FRI 11.12.1992 11:33:58
```

The statistics for *UVK* 5.5 are most impressive.

## ANTI-VIRUSES

An anti-virus is very similar to a virus in that it is a small program in the bootsector which writes itself to every disk in the drive. The difference is that it usually warns you of any executable code in the bootsector by flashing the screen or bleeping at you.

While this is a nice idea, be careful. What appears to be an anti-virus may actually be a devious virus. Using *UVK* is a good idea as it can recognise 36 different anti-viruses.

faulty disk. Perhaps the surface coating has been damaged or the disk has been left in the magnetic field of a loudspeaker. The best quality disks, hence the ones that are least prone to damage, are branded.

And remember, prevention is far better than cure, especially as the cure can be very expensive. *ST Review* takes the utmost care where cover disks are concerned with four checking procedures; it's worth remembering that *ST Review* is the only one of the three main UK Atari magazines not to have released a virus disk. Let's hope that we keep it that way!

*UVK* is the only commercial virus killer with three-monthly updates.

THE ULTIMATE VIRUS KILLER  
Version 5.5GB  
Written by Richard Karsmakers

Douglas Communications  
P.O. Box 119  
Stockport  
Cheshire SK2 6HW  
England

```
F1 Search'n'Destroy Viruses
F2 Repair Disks
F3 UVK 5.5 Information
F4 System Status
F5 Quit to Desktop
FRI 11.12.1992 11:35:46
```

## RED ALERT

This disk is infected!  
It suffers from the  
Ghost Virus A...  
You should repair it immediately!

F1 REPAIR!

FRI 11.12.1992 11:39:16

This disk from the October 1992 issue of another *ST* magazine has been infected with the Ghost virus.



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# WRITE ON TARGET

Create your own logos and letter head with FlexText.



The Paks are program modules which are loaded when needed from within Calligrapher and provide extra features.



**When is a word processor also a DTP package?**

**When it's Calligrapher, as Ofir Gal finds out...**

Word processors and DTP packages are oceans apart in terms of features, but now Working Title is attempting to bridge the gap with **Calligrapher 3**.

The advantages of a combined word processor and DTP program are instantly clear. In **Calligrapher's** case you get the usual word processor features – spell checker, thesaurus and text import – while the DTP side supplies gadgets such as outline

fonts, graphics, a built-in vector art package and a table and formula editor.

The package consists of a thick manual and four disks. A GEM installation program is included which makes **Calligrapher** very easy to set up. There are also two printer drivers with a long list of supported types, including the BJ10, all Hewlett Packard models, the new Ricoh laser printer and even a Postscript driver. **Calligrapher 3** also runs under MultiTOS, so you need to specify whether you want to multi-task or not. The last option also lets you install the program on a hard disk, two floppy drives or a single floppy with full support of the new high-density drives.

Unique to **Calligrapher** are miniature program modules, called Paks, which can be loaded from

within the application. You only buy the Paks you need and when memory is short they can be removed. The help Pak is particularly useful, providing on-line information when you press the Help key. There's also a Pak which enables you to redefine all the keyboard shortcuts.

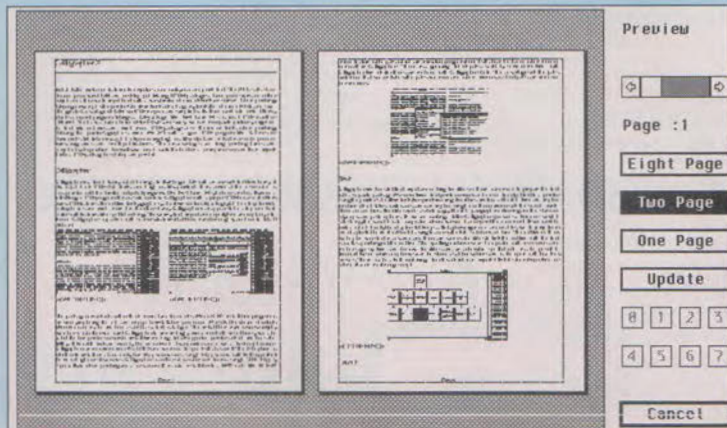
## MAIL MERGE

For letter writing **Calligrapher** provides a variable date stamp which updates whenever you load or print a document. For very long documents there's a 'chapters' function which lets you jump from one block of text to another without having to access the file selector. The spelling dictionary is comprehensive and includes guess, find and browse facilities as well as an automatic spell check. Frequently used words or phrases can be stored as abbreviations and called upon with two key presses. There is also a full mail-merge facility which can import DIF files from SuperBase or define its own mail-merge script.

The layout of a document can be modified at any time during editing. Here **Calligrapher** really comes into its own, with innovative features such as rulers, decorative lines and boxes, fonts, text styles, style tags, custom paragraph spacing, headers, footers and footnotes. You can also define columns and even insert a separating line between them. Headers and footers have their own rulers, and automatic page numbering is also catered for with a choice of decimal or Roman numerals.

## VECTOR FONTS

**Calligrapher** comes with five outline fonts – Swiss, Dutch, Unitype, Math symbols and Ornaments, which includes Visa and Access logos. Fonts are not limited to predefined sizes – it uses scalable vector fonts which can be sized at anything from six to 128 points. If you have a hard disk and more than two Megabytes of memory, **Calligrapher** will display vector fonts on screen as well, otherwise bit-mapped fonts are used. Whichever configuration you have, the printout will always use the vector fonts to produce high-quality output at any size and style. The tag facility enables you to stipulate areas of text for style changes. The text style can also be changed by dragging the mouse over the relevant section, then selecting the new style and font from the fonts menu. Working Title has dozens of additional vector fonts available which are sold separately.



Before you print a document you can use the preview facility to check your layout.

**Flexible text editing facilities**  
**DTP-like features**  
**High printout quality**

## PROS AND CONS

**A little slow with screen updates**  
**User preferences are not accessible from one menu**



| File               | Edit | Find | F |
|--------------------|------|------|---|
| New                |      |      |   |
| Open...            |      |      |   |
| Close              |      |      |   |
| Save               |      |      |   |
| Save As...         |      |      |   |
|                    |      |      |   |
| Insert Document... |      |      |   |
| Insert Graphic...  |      |      |   |
| Show Info...       |      |      |   |
| Set Paper Size...  |      |      |   |
| Preview...         |      |      |   |
| Print...           |      |      |   |
|                    |      |      |   |
| Quit               |      |      |   |

Calligrapher's menus are easy to follow and well laid out.

| Edit             | Find | Font |
|------------------|------|------|
| Undo             |      |      |
| Cut              |      |      |
| Copy             |      |      |
| Paste            |      |      |
| Clear            |      |      |
|                  |      |      |
| Mark All         |      |      |
|                  |      |      |
| Make Upper Case  |      |      |
| Make Lower Case  |      |      |
| Make Mixed...    |      |      |
|                  |      |      |
| Abbreviations... |      |      |

| Find              | Font | Format |
|-------------------|------|--------|
| Search...         |      |        |
| Replace...        |      |        |
|                   |      |        |
| Find Next         |      |        |
| Find Previous     |      |        |
|                   |      |        |
| Goto Page...      |      |        |
| Open Pak...       |      |        |
| Check Spelling    |      |        |
| Auto Checking     |      |        |
| Maintain Dict...  |      |        |
| Unload Dictionary |      |        |

| Font          | Format | Insert      | T      |
|---------------|--------|-------------|--------|
| 10pt          | 20     | 36          | 56     |
| ✓12pt         | 22     | 40          | 60     |
| 14            | 24pt   | 44          | Incrs. |
| 16            | 28     | 48          | Decrs. |
| 18pt          | 32     | 52          | Set... |
|               |        |             |        |
| Italic        |        | Superscript |        |
| Bold          |        | Subscript   |        |
| Underline     |        | No Script   |        |
| Outline       |        | Strikeout   |        |
|               |        |             |        |
| ✓Zurich       |        |             |        |
| Holland       |        |             |        |
| Unitype       |        |             |        |
| Maths Symbols |        |             |        |
| Set Font...   |        |             |        |

In addition to standard features, such as graphics import, boxes and decorative lines, **Calligrapher** includes an option for vector drawing. This gives you a choice of several pre-defined shapes, line styles and fill patterns plus the ability to paste text onto graphics. **Calligrapher** automatically sets the image to the printer's resolution when outputting.

All images can be re-scaled without losing their quality, but only **Degas**, **Neo** and **GEM** format files can be cropped with the aid of Paks, however, IMG files can't be, which is a pity as this would have been a useful feature. One glaring omission is an option to flow text around a picture, which does limit **Calligrapher's** design

capabilities when compared to some other packages.

Tables and mathematical formulas are also catered for. Tables can even accept images, different font sizes and styles, and there's a table design function which lets you alter line thickness, cell size and alignment.

## PRINT OUTS

The first thing that **Calligrapher** does when you instruct it to print is create the appropriate font sizes. Since there are no specific point sizes, the more different sizes that you have in your document the longer it will take to print. Despite this, printing with **Calligrapher** is much faster than you would expect from such a

complex package. When we tested it, which we did with a Deskjet 500, it took just over two minutes to print a moderately complex document. If you are running the program from floppy disks, printing times are likely to be longer.

We tested **Calligrapher** with a Canon BJ10e and a Deskjet 500 and got very good results with both. Most printers can accept high-quality drivers and draft drivers, such as **Fprint**, which significantly improve printing time, so it's certainly worth getting

hold of a copy. You can also define both the actual page size and the virtual page size, the latter being the area of paper that **Calligrapher** prints to.

There are two versions of **Calligrapher III**, **Calligrapher Gold** and **Calligrapher Professional**, the difference between the two being the number of Paks they come with. The help, text import/export, graphics import/export, spelling, Thesaurus and key selector Paks are included as standard with both versions.

## WHAT'S NEW?

Is the upgrade worth the extra cost? Decide for yourself...

**Calligrapher III** does not use G+ and Line\_Arc as its predecessors did - this means that there are no auto folder programs and no Assign.Sys file to deal with! Installation is much easier with the new version and you can even set it up to work with two printers. Full support for high density drives and multi-tasking operating systems are included, together with a new Postscript driver. **CalSetUp** is a new program that enables you to modify the way in which **Calligrapher** uses disk and memory to cache fonts and other internal parameters.

Footnotes can now have a separating line and an index number and you can create a default document which is automatically loaded. New commands have also been

added to the formula editor. Two new entries in the fonts menu enable you to increase or decrease the font size by 10 per cent for all highlighted sections. To select a paragraph in one go you simply have to triple-click over it.

The Import/Export pak can now handle RTF files which, unlike ASCII, include information about font, styles and point size. Many Mac and PC packages can import RTF files.

The PostScript driver enables you to use any DTP bureau to produce a high-quality printout of your documents. Among the features are direct interface with a PostScript printer or print to disk file facility.

There are also special options for printing out A5-sized folded booklets on A4 paper.

**Calligrapher** is a true hybrid, while being a fully fledged WP with an array of text functions, it also capable of DTP style fonts and high quality printouts. It is aimed at the user who is disappointed with the limited output of programs like First Word Plus, but does not really need a fully fledged DTP program. It is easy to confuse **Calligrapher** with a proper DTP because it offers many DTP features like outline fonts, graphics, a built-in vector art package, table editor, formula editor, boxes and much more. On the other hand, **Calligrapher** can appear to be a top end text editor with features like spell checking, Thesaurus, text import and export, find and replace, etc. Indeed, **Calligrapher** is packed with so many features that there is not enough space here to list all of them!

The package consists of a rather thick manual and four disks. A new installation program is provided. **Calligrapher** is a true hybrid, while being a fully fledged WP with an array of text functions, it also capable of DTP style fonts and high quality printouts. It is aimed at the user who is disappointed with the limited output of programs like First Word Plus, but does not really need a fully fledged DTP program. It is easy to confuse **Calligrapher** with a proper DTP because it offers many DTP features like outline fonts, graphics, a built-in vector art package, table editor, formula editor, boxes and much more. On the other hand, **Calligrapher** can appear to be a top end text editor with features like spell checking, Thesaurus, text import and export, find and replace, etc. Indeed, **Calligrapher** is packed with so many features that there is not enough space here to list all of them!

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The two faces of Calligrapher: a powerful text editor and DTP in one package.

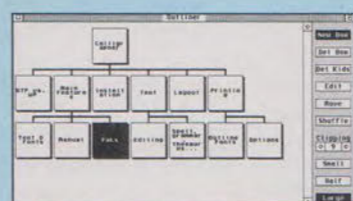


| Format             | Insert | Tag |
|--------------------|--------|-----|
| Chapter List...    |        |     |
| Chapter Info...    |        |     |
| Goto Prev Chapter  |        |     |
| Goto Next Chapter  |        |     |
| Keep Together...   |        |     |
| Display Options... |        |     |
| Text Only Mode     |        |     |
| Set Text Printer.. |        |     |

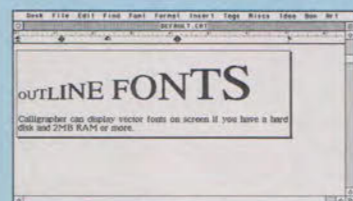
| Insert           | Tags | Misc |
|------------------|------|------|
| Ins Ruler        |      |      |
| Date             |      |      |
| Page Break       |      |      |
| Column Break     |      |      |
| Page Number      |      |      |
| Ins First Number |      |      |
| Next Number      |      |      |
| First Roman      |      |      |
| Next Roman       |      |      |
| First Alpha      |      |      |
| Next Alpha       |      |      |
| Ins Merge Field  |      |      |
| Question         |      |      |

| Insert               | Tags | Miscs | Ides |
|----------------------|------|-------|------|
| Change Tags Setup... |      |       |      |
| No Tag Style         |      |       |      |
| Standard Holland     | F1   |       |      |
| Listing Uni 10       | F2   |       |      |
| Zurich 16            | F3   |       |      |
| Zurich 14            | F4   |       |      |

| rt             | Tags | Miscs |
|----------------|------|-------|
| Hide Rulers    |      |       |
| Hide Headers   |      |       |
| Hide Footers   |      |       |
| Hide Footnotes |      |       |
| Hide Strikeout |      |       |
| Start Header   |      |       |
| Start Footer   |      |       |
| Start Footnote |      |       |
| Customize...   |      |       |
| Substitutes... |      |       |
| Preferences... |      |       |
| Make a Table   |      |       |



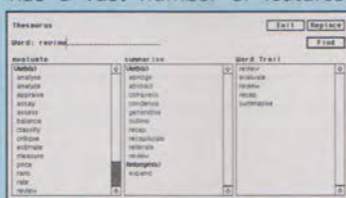
The outline window enables you to plan your document, which makes producing multi-page layouts much easier. The outline can be merged with the document as a template and even printed out for reference.



Calligrapher can display smooth vector fonts of any point size on screen if you use a hard disk and have enough free memory. Even if you don't it uses the scalable fonts to output to a printer.

## GRAMMAR CHECK

The Grammar Checker Pak, which is supplied with **Calligrapher Gold**, points out grammatical errors in your work and provides you with statistics about the readability of your text, how many times you have used certain words and the average number of words per sentence. The BarCoder Pak can produce barcodes (supermarket style) and save them as GEM files, and it can even create video barcodes. The Interactive Formula Editor is designed to create complex mathematical formulae and has a vast number of features.



Calligrapher now includes an English Thesaurus as standard. Here you can maintain two separate word lists and the word trail keeps track of all the words you've looked at.

FlexText can be used to design logos and letterheads, enabling you to bend text over an S-curve or an arc and then save the results as a GEM file. The Label Pak can be used to printout things such as address labels via the mail merge facility. There are various settings which enable you to accurately place text on each label and even add graphics. AutoSave is a simple utility which, as its name suggests, automatically saves documents at set intervals.

The Indexer Pak is extremely useful for long documents. It uses a complex and flexible indexing system which updates automatically when you modify the text.

If, for example, the words 'outline fonts' appear in page six, but are later moved to page seven because you have entered some new text, the index will automatically update to reflect the changes.

A Postscript Pak is included with both packages; this enables you to define various parameters such as fonts and paper size.

Landscape printing is also possible with this driver, but only with Postscript printers. The Pak can also produce files which can be outputted by any Postscript DTP bureau.

## TUTORIAL

Over 350 A5 pages of text are needed to explain all **Calligrapher's** functions. The manual is well laid out, using **Calligrapher**, and includes two tutorial sections which take you through the essential features of the package. The manual caters for novice and expert alike and is generally easy to follow. The keyboard shortcuts card is a useful addition and helps you get used to the many available commands.

**Calligrapher III** is an excellent package; it is brimming over with original, useful features, but remains easy to get to grips with. The use of outline fonts and Paks

makes it stand out in the ST market as one of a kind. Nothing is perfect, of course, and **Calligrapher's** biggest drawback is its speed. It can be very slow when displaying fonts on screen or when globally changing ruler or style settings. Printing, however, is fast and the results are of a very high quality, especially if used with a DeskJet or laser printer. Surprisingly, it is not expensive when compared to other DTP packages and only costs a little more than a standard WP package. One improvement would have been to have had the spell checker load automatically with the program, but this is a relatively minor reservation about a winning package.

**"This is a well featured word processor and DTP package rolled into one"**

**NAME: CALLIGRAPHER 3**  
**COMPANY: WORKING TITLE**  
**CONTACT: 0865 883592**

**PRICE: CALLIGRAPHER**  
**PRO £99.95**  
**CALLIGRAPHER GOLD**  
**£139.95**  
**MIN MEMORY: N/A**

**EASE OF USE** ★★★★★  
**DOCUMENTATION** ★★★★★  
**EFFECTIVENESS** ★★★★★  
**VALUE FOR MONEY** ★★★★★

**OVERALL** **90%**

## BIT IMAGE AND VECTOR FONTS

Most users are familiar with bit-image fonts which are included with programs such as **Timeworks Publisher** and **HyperPaint**. These programs use GDOS and fixed-size fonts to produce both screen and printer fonts. For every point size you use you must have two fonts loaded in memory, one for the screen and one for the printer. A bit-image font is simply a picture of the characters built from individual pixels, so different printers require different fonts specifically designed for the printer's resolution.

While you may, if you wish, resize bit-image fonts, the results leave a lot to be desired and both screen and printed output will suffer from jagged edges and less than smooth contours. This effect is referred to as dithering.

An alternative method is to describe the fonts in terms of co-ordinates. Each character is a collection of points with straight or curved lines connecting them. The font is not limited to any size or resolution, it always uses the maximum available resolution to connect the points, and the result is much improved output at any point size. One font can be used for both the screen and any printer resolution.





# HCS

## MEMORY UPGRADES

### HCS STE and MEGA STE UPGRADES

HCS STE memory upgrade kits come complete with full instructions designed for the novice. The complete job should take no longer than 15 minutes. 2 and 4 megabyte kits come with free utilities disk and multitasking software.

|                                |        |
|--------------------------------|--------|
| Upgrade from 520 to 1040 ..... | £13.99 |
| To 2 Megabytes.....            | £49.99 |
| To 4 Megabytes.....            | £94.99 |

### STF (M) and Mega ST upgrade kits

Xtraram Deluxe plug in upgrading system fits inside the computer. It can upgrade your computer in stages to 1Mb, 2.5Mb\* and 4Mb. The kit comes with comprehensive instructions designed for novices. The kit uses SIMMS, so is easily upgradeable.

#### MARPET XTRARAM *Deluxe* QUALITY SIMM UPGRADING SYSTEM

Formerly Frontier

|                                |         |
|--------------------------------|---------|
| Upgrade from 520 to 1040 ..... | £44.99  |
| To 2.5 Megabytes.....          | £79.99  |
| To 4 Megabytes.....            | £119.99 |

### Solder in Kit

The solder in kit will upgrade the 520ST to 1Mb. Electronics experience is required as much soldering is needed. Check your RAM chip configuration before ordering: 4 or 16 chips, SMD or DIL.

|                                    |        |
|------------------------------------|--------|
| Solder in kit (all versions) ..... | £25.00 |
|------------------------------------|--------|

## REPLACEMENTS

The HCS power supply and disk drive upgrades come complete with fitting instructions and plug straight into the ST without soldering. The Power supply produces less heat than the original so is more reliable.

|                                   |        |
|-----------------------------------|--------|
| Replacement power supply .....    | £39.95 |
| Double sided disk drive kit ..... | £47.00 |

## ACCELERATORS

The AD speed made by ICD fits in place of your microprocessor. It uses a 68000 chip running at a switchable 16Mhz with cache or standard 8Mhz to give virtually 100% compatibility. The 68030 SST for the Mega ST gives phenomenal speed with a 68030 running at 50Mhz! The SST has space for 8Mb on board RAM, TOS2 included.

|                         |         |
|-------------------------|---------|
| AD Speed ST .....       | £145.00 |
| AD Speed STE.....       | £165.00 |
| 68030 SST - 50 .....    | £550.00 |
| Fitting for above ..... | £35.00  |

## INTERFACES

The "AdSCSI" ICD host adapter gives SCSI output from the STs DMA port, complete with software and full documentation, DMA cable and hard drive formatting software. Multirez allows the ST to display all 3 ST resolutions on the multisync monitor. The forget me clock sets your STs time and date, with cartridge through port. Keyboard interface allows the use of external PC compatible keyboards on the ST.

|                                 |        |
|---------------------------------|--------|
| AD SCSI.....                    | £69.99 |
| AD SCSI Plus (with clock) ..... | £79.99 |
| Keyboard Interface .....        | £55.00 |
| Multirez .....                  | £44.99 |
| Forget Me Clock.....            | £16.99 |

### SAME DAY REPAIRS IN LONDON

#### SAME DAY FITTING AND REPAIRS TO COMPUTERS AND MONITORS. REPAIRS FROM £29.99

- \* We offer a discount fitting service when your upgrade is purchased from us!
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- \* Repair charge includes labour and smaller items of repair
- \* Ask for a TOS 1.4 upgrade at the same time as your repair for only £25.00
- \* All repairs carry 90 day warranty

GEARED  
TOWARDS  
MUSICIANS

## ATARI MEMORY UPGRADE SPECIALISTS

## MONITORS

14" Super high resolution 0.28mm dot pitch monitor is compatible with TT, PC, Falcon and Multirez. The new HCS MM140 Monochrome monitor has tilt/swivel base and 14" tube. Fully compatible with all monochrome ST software.

|                                |         |
|--------------------------------|---------|
| Multisync colour monitor ..... | £280.00 |
| SM144 14" FST Monochrome.....  | £115.00 |

## MODEMS

HCS Smart Modem 9600 has full FAX capability for send and receive. Auto-answer, pulse or tone dial, automatically determines incoming calls as fax or modem, industry standard command set with support for V22bis, V22, V21. Fully Hayes compatible. All types c/w PC software. ST fax software option supports most ST graphics formats including Pagestream and Calamus for immediate composition and send. Modem 2400 has all above features but without fax. Smart One14400 comes with MNP level 1-5 and Fax capability. Using V42 bis gives a maximum effective throughput of 58000bps!! All types come complete with cables.

|                                                              |         |
|--------------------------------------------------------------|---------|
| Smart One™ 2400 .....                                        | £59.99  |
| Straight Fax software.....                                   | £45.00  |
| Smart One™ Fax with ST FAX software.....                     | £139.99 |
| Smart One™ Fax with only PC software .....                   | £119.99 |
| Smart One™ 14400 Fax MNP V32,V32bis,<br>V42,V42bis etc ..... | £249.99 |

## PROTAR HARD DRIVES

|                       |         |
|-----------------------|---------|
| Progate II 40.....    | £288.88 |
| Progate II 40DC.....  | £349.99 |
| Progate II 50DC.....  | £349.00 |
| Progate II 120DC..... | £469.00 |

The Vortex 386 emulator runs at 16Mhz and allows true multitasking in PC mode on the ST. Space on board is provided for a 387 CO Processor and 512K of FASTRAM. Norton factor 1.5!

|                        |         |
|------------------------|---------|
| VORTEX 386 SX-16 ..... | £330.00 |
| 387 CO-PROCESSOR ..... | £117.00 |
| FASTRAM CACHE .....    | £30.00  |

## SPECTRE GCR MAC EMULATOR

Spectre GCR cartridge gives 20% more speed and 30% bigger screen area on the standard ST. Compatible with the TT.

|                                   |         |
|-----------------------------------|---------|
| SPECTRE GCR (Inc. 128K Roms)..... | £300.00 |
|-----------------------------------|---------|

|                 |          |
|-----------------|----------|
| Atari TT2 ..... | £1050.00 |
|-----------------|----------|

## HOW TO ORDER

Enquiries and credit card orders please  
Fax/Call on (071) 252 3113

Please phone with enquiries between  
Mon - Fri 9.30am to 5.30pm. Sat 10.30am to 2.00pm

Enquiries cannot be taken by post.

For mail order please send description of goods and cheque/PO to:



**HCS**  
Dept 10, 144 Tanner Street  
London SE1

Prices include VAT and P & P  
Goods normally dispatched within 2 working days.



E & D

5  
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ON  
MEMORY

Marpet No1 distributor,  
Exclusive Best Data UK  
distributor, Exclusive  
Joppa Software UK  
distributor, Gadgets UK  
distributor.

14  
DAY  
NO QUIBBLE  
MONEY BACK  
GUARANTEE

### WORKSHOP ADDRESS

HCS ENGINEERING, 144 Tanner Street, London SE1  
REPAIRS AND SERVICE telephone number NOT MAIL ORDER: 071-252 3553  
Fax: 071-252 1551



**T**his month we've had three new, quiet and compact printers in for testing. The two Epsoms are both dot matrix – their new, and not-quite-cheapest, 9-pin model, the LX-100 – and the LQ-100, which is a 24 pin printer. The Canon is yet another inkjet machine from their ever-growing range.

The one thing they have in common is that they can all be used standing on end. In the absence of any major technical break-through manufacturers have to turn their minds to ease of use (thank goodness) and, if possible, produce faster, quieter and cheaper than the models they follow.

A well-designed printer should be usable by a five year old. Although I've tested a lot of printers, and am as hooked by computers as the next person, I hate the complexity and obscurity of a lot of computer stuff. If you think this odd, I would answer that most reviews are written for people who don't have great computer expertise.

## CANON BJ-200

*John ignites the  
whispering cannon  
Never has there  
been a more silent  
printer."*



*The BJ-200 is an interesting mid-range Bubblejet.*

Canon's Bubblejet family must now be complete. First there's the current baby, the BJ-10ex (ST Review, May 1992), small and portable with very high quality print. Then comes the BJ-20 (ST

Review, Oct 1992), the same box, but with better controls, more fonts, and sheet feeder supplied. Now there's the 200, somewhat similar in design but with sheet feeder built on. On the street they



# THREE UPSTAN

*The New Year will witness a trio of brand new printers that sit on their*

## THE EPSON 100S

*These two  
machines share the  
same casing, paper  
feed arrangements  
and the control  
panel works in the  
same way. This is  
sensible, and pre-  
sumably makes  
them cheaper to  
manufacture...*



*The Epson LX-100 must be the cheapest dot matrix with a sheet feeder.*

To my surprise the LX-100 does not replace the LX-400, Epson's cheapest printer, which we looked at in our 9-pin round-up in August. The LX-400 will continue as an entry model, selling for about £20 less.

Their performance is very similar, but the design of the 100 has been quite radically rethought.

### SOUND OF SILENCE

The printers look like a plastic lunch box minus the handle. Epson wants to reduce printing noise by enclosing as much of the mechanism as possible. Dot matrix printer-heads rasp and tear their way across the paper, so a closed box which is padded with foam rubber will be quieter than

one with a great hole in the top to let the sound out. Both the LX and LQ are fairly quiet.

### NEW LIFT

They also include several other novelties. The first is a built-in cut sheet feeder. Usually, if you want to use non-perforated paper with a dot matrix printer you have to buy an extra contraption costing from £60 to £100. I suspect that fewer and fewer people use perforated paper, so this change will be welcomed by many.

The feeder holds 50 sheets (adequate but not generous) and sticks out at the front by about four inches. It's tricky adding more paper without taking out what is already there, but if you



*The LQ-100 does handstands too...*

want to change over from, say, copy paper to best-quality for one or two sheets, there is another slot underneath the machine which by-passes the feeder. Underneath? You needn't start drilling holes in your desktop so you can lie on the floor and feed in your Conqueror, as innovation number two is that the 100s can be used standing on end as well as flat on their bottoms.

If this sounds a little familiar then you need look no further than Canon for dreaming it up with its BJ-10 machines. They too have a bottom-feed single sheet/envelope slot which can be used when the printer is upright.

In this position the printer takes up less space and is less likely to



are priced at about £195, £297, and £328 respectively. If you want a conventional-looking desktop model there is also the BJ-300 (ST Review, May 1992) for about £10 more than the BJ-200, and the BJ-330 costing about £100 more than that.

## DESKTOP PRINTING

Canon sees the 200 as a desktop machine, competing with HP's DeskJet. As such it is bigger, heavier and also faster than the portable BJ-10 and 20. The BJ-200 stands vertically, with its 80-sheet paper feed trough behind. The control buttons and on/off switch are on top of the cover for the dip switches, the front folds down so you can get at the printing mechanism and change the ink cartridge, and paper exits at the bottom in front. A significant drawback with that arrangement is that although the printer is compact and occupies little desk space, you need an A4-sized clear area in front of it where

the printed pages emerge and collect on a pull-out tray - and that is precisely where those coffee cups will congregate...

## UNWIELDY

A problem with the Bubblejet range is that, certainly when linked to the ST, they print graphics better in their Bubblejet (BJ) mode and print text better (and have more available fonts) in their Epson LQ mode. To change from one to the other you have to turn the machine off, flip a dip switch, and turn on again. This is very irritating.

On the BJ-20 they improved things by letting you temporarily switch over from the control panel, but on the 200 you can't. This is very disappointing (and means that the machine doesn't meet my five-year-old ease-of-use criterion).

Another odd feature with this one is that you can't change fonts from the con-

trol panel, so you are stuck with the default (Roman) unless your word-processor's printer driver has the necessary options.

As you'd expect, print quality is superb, and this is the quietest printer that I've ever come across. It is faster than the BJ-10/20, though slightly slower than the HP DeskJet at printing the same things. It is well made and nice to look at, but has the quirks in design which I've mentioned, and which reduce its appeal.

Canon BJ-200, Epson LQ mode  
Draft mode abcdefg  
Roman abcdefg  
Sans Serif abcdefg  
Courier abcdefg  
Prestige abcdefg  
Script abcdefg  
ORATOR ABCDEFG  
Orator-S abcdefg  
*Italic, bold, underlined*  
Outlined  
Shadowed

The BJ-200's fonts are of an excellent quality.

**"Neat, very quiet, fairly quick, superb print and extremely quiet in use"**

NAME: CANON BJ 200  
COMPANY: CANON UK LTD  
CONTACT: 081 733 3173  
PRICE: £399 (EX VAT)

|                 |       |
|-----------------|-------|
| CONSTRUCTION    | ★★★★★ |
| EASE OF USE     | ★★★★★ |
| PRINT QUALITY   | ★★★★★ |
| SPEED           | ★★★★★ |
| INSTRUCTIONS    | ★★★★★ |
| VALUE FOR MONEY | ★★★★★ |
| OVERALL         | 70%   |

# PRINTING MACHINES

in a corner and quietly do their work. John Mallinson tests them and prints the results

accumulate coffee cups and similar objects.

Tractor feed for perforated paper hasn't been abandoned by Epson. The LX-100 comes with a push tractor mechanism which fits on the back of the printer (it can't then be used upright) and features paper parking. It is easy to fit and use. The LQ model accepts the same tractor, but it isn't supplied. Again, very reasonable of

Epson. Most users of the LQ will print onto ordinary paper, so why saddle them with the extra cost of something they will probably never use?

## SPEED AND QUALITY

At first, Epson's third innovation seems like a leap backwards. Whilst most manufacturers are adding more buttons and lights to their gear, Epson have done the opposite. Only two buttons and a few little lights on the control panel, and no dip switches. The buttons let you control paper loading and change fonts (if you can't do that from software). You also use them to make all the configuration settings that usually demand a couple of banks of dip switches, a very good light, a cocktail stick, and a close read of the manual.

You probably won't need to change these settings (page length, character set, etc) but if you do, Epson have introduced a print-out menu system.

Each of the current settings is printed in turn, and you use the two buttons to select Yes/No to change it or select another. The system is slightly easier to use on the LQ than the LX, and quite painless on both.

## HIGH-SPEED DRAFT

The main differences between the LX and LQ are in the quality and

speed of print. The LX is actually slightly faster in draft mode, and the LQ is considerably faster when printing best quality. The LX only has two fonts (plus draft), the LQ has five, and its 24 pins give better-looking, denser, and sharper print as you would expect. The LQ also breaks new ground by introducing scalable fonts to the cheaper end of the dot

matrix market: its Roman and San-serif fonts can print at any size between eight and 32 points.

These are likeable machines. The LX isn't the cheapest 9-pin on the market but its built-in sheet feeder and ease-of-use should make it very popular. You won't find many 24-pin printers cheaper than the LQ-100, and if you can find the extra £36, get it.

Epson LX-100  
Draft mode abcdefg  
Roman abcdefg  
Sans serif abcdefg  
*Italic, bold, underlined*

The LX-100's 9-pin output is no better or worse than any other!

Epson LQ-100  
Draft mode abcdefg  
Roman abcdefg  
Sans Serif abcdefg  
Courier abcdefg  
Prestige abcdefg  
Script abcdefg  
*Italic, bold, underlined*  
Outlined  
Shadowed

The LQ-100 has a very good range of fonts.

**"Good paper feed options, very simple to use, and cheap for what you get"**

NAME: EPSON LX-100  
COMPANY: EPSON UK LTD  
CONTACT: 0442 61144  
PRICE: £189 (EX VAT)

|                 |       |
|-----------------|-------|
| CONSTRUCTION    | ★★★★★ |
| EASE OF USE     | ★★★★★ |
| PRINT QUALITY   | ★★★★★ |
| SPEED           | ★★★★★ |
| INSTRUCTIONS    | ★★★★★ |
| VALUE FOR MONEY | ★★★★★ |
| OVERALL         | 86%   |

**"Good fonts, very simple to use, good value and reasonably quiet in use"**

NAME: EPSON LQ-100  
COMPANY: EPSON UK LTD  
CONTACT: 0442 61144  
PRICE: £245 (EX VAT)

|                 |       |
|-----------------|-------|
| CONSTRUCTION    | ★★★★★ |
| EASE OF USE     | ★★★★★ |
| PRINT QUALITY   | ★★★★★ |
| SPEED           | ★★★★★ |
| INSTRUCTIONS    | ★★★★★ |
| VALUE FOR MONEY | ★★★★★ |
| OVERALL         | 90%   |



# Ladbroke Computing



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Fax: (0772) 561071

Tel: 9 am - 5.30 pm (5 Lines)

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## DataPulse

### Hard Drives

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- We only use quality ICD controllers with clock.
- All drives include 12 months warranty & free expert support.

|                    |          |
|--------------------|----------|
| Data-Pulse + 42Mb  | £ 299.99 |
| Data-Pulse + 127Mb | £ 429.99 |
| Data-Pulse + 213Mb | £ 569.99 |

### Floptical Drives

- Stores over 20Mb of data on a 3.5" Floptical disk. Reads/Writes 720K and 144Mb 3.5" disks.
- Average access time 65ms. Data transfer rate 200K per second (6 times faster than Floppy disk).
- Available as a stand alone unit, an upgrade to Data-Pulse(Plus) or as a combination unit with Hard drives. 21Mb Floptical diskette included with every drive.

|                          |          |
|--------------------------|----------|
| 21Mb Floptical Drive     | £ 399.99 |
| Datapulse upgrade        | £ 299.99 |
| 21Mb 3.5" Floptical Disk | £ 24.99  |

## Discovery Packs

- Includes Windowing GEM Operating system, Stereo sound output.
- Includes Mouse and built in modulator to connect to TV.
- 4 Great games: 9 lives, Escape from the planet of the robot monsters, Final fight, Sim City.
- 1st Word wordprocessor, Neochrome Art & Ani ST.
- Basic Language and Tutorial software.

|         |       |
|---------|-------|
| 520 STE | £ 219 |
| 1Mb STE | £ 229 |
| 2Mb STE | £ 275 |
| 4Mb STE | £ 329 |

## Curriculum II Packs

- Educational software catering for 5yrs to GCSE level.
- Two great games.
- Creativity pack including Hyperpaint and Music maker software.

|             |       |
|-------------|-------|
| 1040 STE    | £ 289 |
| 2Mb 1040STE | £ 345 |
| 4Mb 1040STE | £ 399 |

Above Curriculum packs are special offers while stocks last.

|                       |       |
|-----------------------|-------|
| 1040 Midi Master Pack | £ 289 |
|-----------------------|-------|

## Printers

### Star

|                      |       |
|----------------------|-------|
| Star LC100 Colour    | £ 165 |
| Star LC20            | £ 124 |
| Star LC24/100        | £ 179 |
| Star LC24/200 colour | £ 259 |

All Star Dot Matrix printers include 12 months on site warranty.

|                        |       |
|------------------------|-------|
| Starjet SJ48 Bubblejet | £ 210 |
| SJ48 Sheetfeeder       | £ 69  |

### Citizen

|                          |       |
|--------------------------|-------|
| Citizen 120D+            | £ 119 |
| Citizen Swift 240 Colour | £ 270 |

### Hewlett Packard

|                       |       |
|-----------------------|-------|
| HP Deskjet 500        | £ 339 |
| HP Deskjet 500 Colour | £ 449 |
| HP Deskjet 550 Colour | £ 580 |

### Triumph Adler

|                   |       |
|-------------------|-------|
| JPR7825 Bubblejet | £ 224 |
|-------------------|-------|

### Lasers

|                          |       |
|--------------------------|-------|
| Seikosha OP104           | £ 549 |
| Seikosha 1Mb RAM         | £ 69  |
| Seikosha Toner (2 units) | £ 19  |
| Seikosha Drum Unit       | £ 79  |
| Ricoh LP1200             | £ 759 |

Add £3 for Centronics cable and £5 for next working day courier delivery.

## Monitors

|              |          |
|--------------|----------|
| Atari SC1435 | £ 179.99 |
|--------------|----------|

The SC1435 comes complete with cable and tilt/swivel stand.

|                  |          |
|------------------|----------|
| Philips 8833MKII | £ 229.99 |
|------------------|----------|

Includes 12 months on site warranty and free Lotus Turbo challenge II.

|                    |          |
|--------------------|----------|
| Philips 15" FST Tv | £ 229.99 |
|--------------------|----------|

|                           |          |
|---------------------------|----------|
| Philips 15" Cube Teletext | £ 259.99 |
|---------------------------|----------|

- SCART input Tv
- Fasttext teletext

|                       |        |
|-----------------------|--------|
| 8833 MKII-Amiga cable | £ 9.99 |
|-----------------------|--------|

|                        |        |
|------------------------|--------|
| Philips SCART to Amiga | £ 9.99 |
|------------------------|--------|

## ST Networks

### Datanet Network Hardware

- Cartridge based high speed network solution.
- Compatible with ST(F)(M), Mega ST, STE, Mega STE.
- Connects via Coax and BNC connectors.

### Powernet Network Software

- MultiTasking Network software allows applications to run on the server while drive and printer accesses take place in the background.
- Allows the mixing of Network types, ie DataNet, LanNet and MidiNet devices.
- Full Falcon compatibility using LanNet device.
- Ethernet compatibility and E-Mail coming soon.

|                       |         |
|-----------------------|---------|
| DataNet with PowerNet | £ 99.99 |
|-----------------------|---------|

|                      |         |
|----------------------|---------|
| LanNet with PowerNet | £ 89.99 |
|----------------------|---------|

|                       |         |
|-----------------------|---------|
| MidiNet with PowerNet | £ 59.99 |
|-----------------------|---------|

## Aries Upgrades

- Will fit any ST(F)(M) or Mega ST. Solder in design for higher reliability.
- Extremely compact in house designed Multi-Layer circuit board, smaller than a credit card. Upgradeable in stages from the base 512K to 2Mb then 4Mb.
- All Aries RAM upgrade boards come packaged in a 10 capacity disk box, complete with full fitting instructions and memory test software.

|                         |          |
|-------------------------|----------|
| 512K Board              | £ 39.99  |
| 2Mb Board               | £ 79.99  |
| 4Mb Board               | £ 129.99 |
| 512K SIMM's STE         | £ 7.99   |
| 2Mb SIMM's STE          | £ 57.99  |
| 4Mb SIMM's              | £ 109.99 |
| 2xSIPP to SIMM adaptors | £ 3.00   |

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Our Service department can repair ST's in minimum time at competitive rates. We can arrange for fully insured, courier pickup and return delivery of your machine to ensure it's safety. We even have a same day service which will ensure your machine is given priority and subject to fault, completed the same day. We can fit memory upgrades, PC Emulators, Security devices, ROM upgrades, hard drives to Mega STE's etc.

We offer a Quotation service for £15 for which we will examine your machine and report back with an exact price for repair. If you do not wish to go ahead with the repairs then just pay the £15. However if you do go ahead then the charge is included in the minimum charge.

Please note: The minimum charge covers labour, any extra parts are chargeable.

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- Opto/Mechanical mechanism.
- 500mm/SEC tracking speed.
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- Direct Mouse replacement.

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| GI Brush Mouse | £ 19.99 |
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| Golden Image Mouse | £ 14.99 |
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The Golden Image Mouse was recently given an Amiga Format Gold Award with 90% and offers 290 Dpi resolution, 2 high quality microswitched buttons and a free mouse mat.

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| Optical Mouse | £ 24.99 |
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The Golden Image Optical Mouse is a high quality, 3 button, replacement mouse. The fully Optical mechanism means no moving parts offering far higher reliability. Includes Mat.

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|-----------|--------|
| Jin Mouse | £ 7.99 |
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Don't be deceived by the low price of this mouse. Mass production of the Jin mouse has resulted in a high quality Opto/Mechanical mouse featuring 290 Dpi resolution.

|                      |        |
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| Ladbroke's Mouse mat | £ 2.98 |
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Please add £2 for P&P on mice.

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- 720K formatted capacity.
- Double sided, Double density.
- Daisy Chain Through port for compatibility with older ST(M) machines.
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- Attractive case design.

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## Silhouette

- Autotraces bit image graphics to resolution independant vector graphics.
- Produces Beziers, B-Splines, High resolution grey scales.
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- Requires 1Mb ST, Hi-res monitor.

|            |      |
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| Silhouette | £ 60 |
|------------|------|

Calamus CVG support, coming soon.



# FAST FORWARD

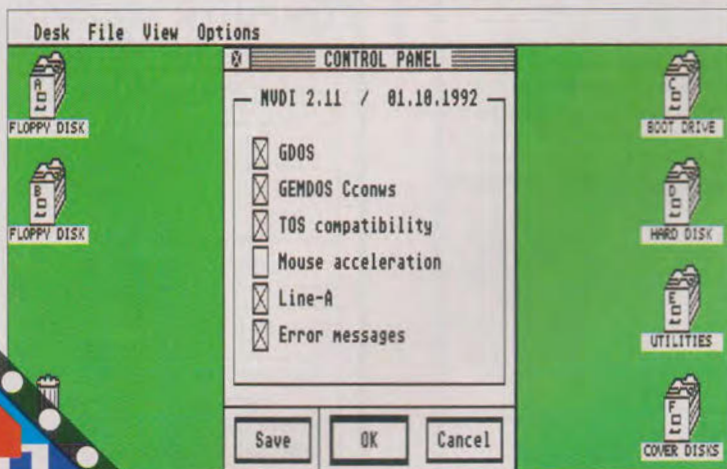
When a new version of a product comes onto the market the first thing that you do is to look for the cosmetic changes. This is a bit difficult when the program has no cosmetic appeal at all!

A software 'Blitter', such as NVDI, is a program which works in the background and the only change that you can actually see is the version number and date on the setup screen. The real changes, however, take place in the background.

The new version of NVDI has been made even more compatible with other software. In fact, it is now quite hard to find a program that it will not run with. Use it with **Timeworks** and the screen updates are almost instant. It has the flexibility required of its genre, but it's not for the faint-hearted when it comes to GDOS. A good knowledge of how the ASSIGN.SYS file is assembled and used is required. The early version caused screen corruption if this was not set up correctly. Fortunately, the new version appears to have eliminated this.

## UNPRECEDENTED SUPPORT

EMagic, the new company behind the Notator music package, has made a point of stating that its software is now **NVDI** compatible. For a company that has always insisted that nothing should be run alongside its programs, this is quite a step forward, and goes some way towards indicating how seriously **NVDI** is now being



The XControl panel for NVDI 2.11. Note the new date and version number, the only way externally to tell them apart.

taken by people in the market place.

However, the newest version of NVDI has proved to be less compatible with some everyday software than its predecessor. ImageCopy from the ST Club does not like it and will not run correctly and also Boink, a screen saver, corrupts the screen when NVDI 2.11 is present.

The latter effect is not altogether surprising, however, as both programs use similar calls in their programming.

Strangely, though, **ImageCopy** used to work perfectly well with the older version of the program.

At £39.95, **NVDI** is certainly not the cheapest accelerator available on the market, but it is, without a doubt, the fastest. The question is, is it worth the money for the extra speed?

The answer is really with you. The alternative is to spend £300 on a Turbo board, so £40 is not

bad compared to that. Bear in mind that the largest speed improvement is in the graphics handling, so it is ideal for use with DTP and packages that rely heavily on moving and updating the screen. If speed is not vital, then there are other, cheaper software programs that will do the job, but if you add FSMGDOS or FONTGDOS to the package, you're not really saving that much.

**NVDI** can't be beaten for speed and functionality, although this new version is slightly slower than the previous one, but it does lose out slightly on ease of use. If you're going to use your computer for serious purposes for long periods, though, then some form of acceleration is completely essential and **NVDI** fits the bill reasonably well.

Last month, we compared NVDI with Warp 9. A new version of NVDI was due to be released but was not available until after we went to press. Tony Kaye looks at the newest version...

Fast  
CPX included  
Ideal for professional use

## PROS AND CONS

A little on the expensive side

"Fast and functional but at a price"

NAME: NVDI 2.11  
COMPANY: ATARI  
WORKSHOP  
CONTACT: 081 693 19191

PRICE: £39.95  
RELEASE DATE: OUT NOW  
MIN MEMORY: 0.5 MB

EASE OF USE ★★★★★  
DOCUMENTATION ★★★★★  
EFFECTIVENESS ★★★★★  
VALUE FOR MONEY ★★★★★

OVERALL **85%**

## THE NEW TESTS

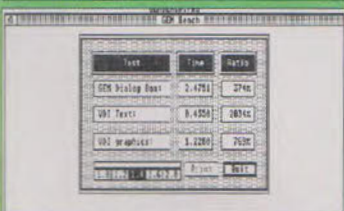
The Ness Benchmark test. 16% down on dialogue box draw but about the same for graphics.

The tests that were performed last month have been repeated with the new version of **NVDI**. For an accurate comparison, use the figures in last month's issue. The test conditions were identical for both sets of results.

As you can see, the results show that the latest version of **NVDI**, v2.11 is slightly slower than its predecessor.

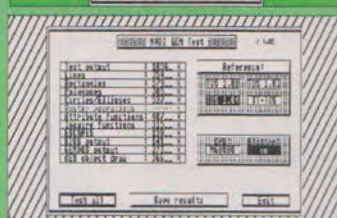
However, compatibility has been increased and you should find that it clashes with far fewer programs than before.

**NVDI** is still the fastest software accelerator available.



GEM Bench test. Text and dialogue boxes are down, but the VDI graphics show an increase of 106%!

Quick Index. A drop of 350% for the DMA and 120% for GEMDOS files, but still a good turn of speed.



NVDI's own GEM test. Generally slower than NVDI 2.03.



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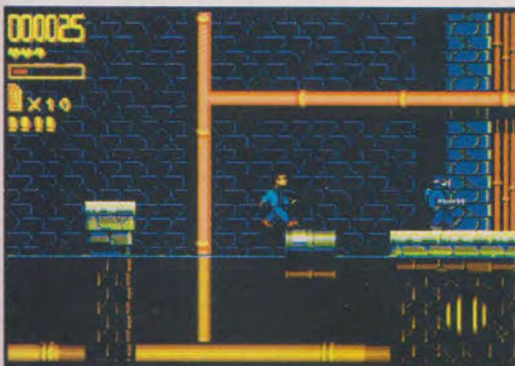
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| PUCKETT                       | WOKING           | 4  | 2  |
| DALGLISH                      | WOKING           | 2  | 2  |
| STAPLETON                     | WYCOMBE WAND'ERS | 4  | 2  |
| BOUGHY                        | STAFFORD RANGERS | 4  | 2  |
| GHEALISH                      | BROMSGROVE       | 4  | 2  |
| MEBB                          | BROMSGROVE       | 4  | 2  |
| WHITEHOUSE                    | BROMSGROVE       | 3  | 2  |
| INGLES                        | BROMSGROVE       | 3  | 2  |
| GRAINGER                      | KIDDERMINSTER    | 4  | 2  |
| HUMPHRIES                     | KIDDERMINSTER    | 4  | 2  |

*Premier Manager take to the touch-line with your favourite footy team.*



*WWF 2 – grunt and grapple action returns to the ST.*

It's been a cracking month for ST games with everything from wrestling to RPGs. Sequels are also thick on the ground with **3D Construction Kit 2**, **BAT 2** and **Gobliins 2**. But standing head and shoulders above the field is **Legends Of Valour** – to find out why turn to page 50.

If you're skint after Christmas check out VFM for the last word in cheap games. Keep an eye out for next issue as well for top-name games such as **Streetfighter 2**, which should, we hope, be finished at last.

## A real bumper batch of releases brings in the new year...

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We take a look at the hottest games that are on their way to the ST.

### LEGENDS OF VALOUR 50

Enter US Gold's virtual world and discover possibly the best ST RPG yet.

### COOL WORLD 54

Holly would if she could and if she does you can find out here.

### BAT 2 56

Ubi Soft's follow-up to the acclaimed BAT is bigger, but is it better?

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The champions of spandex are back, they're certainly bigger but are they badder than last time?

### 3D CONSTRUCTION KIT 2 62

Create your own 3D games, but does it match up to STOS 3D?

### NO SECOND PRIZE 66

Ride by the seat of your pants in the fastest ST motorbike-racer yet!

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Enlist as the manager of a non-league team and help guide them to the big time.

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They're back and as crazy as ever. This time the goblins are out to rescue a prince in distress.

### LETHAL WEAPON 73

Murtaugh and Riggs hit the ST for the first time in a game that combines the best of the three movies.

### STRATEGY MASTERS 76

Pit your mind against your ST in this compilation of some of the most testing computer strategy games ever.

### FANTASTIC WORLDS 76

Conquer a planet or lead the life of a pirate on the high seas in this compilation from Ubi Soft.



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# FIRST IMPRESSIONS

Once again, our investigative games fiend, Wayne 'shake a' Legg, takes the covers off the latest games in development. . .



## SLICKS

*Now Nigel Mansell has won the Formula One World Championship, most software houses are releasing Grand Prix racing simulations, and Codemasters is no exception*

Codemasters' new racing game, **Slicks**, is vastly different from anything else on the market. While rival contenders concentrate on the more technical aspects of Formula One racing - selecting the correct tyres, adjusting brake pressures and maximising engine torque - **Slicks** is based on a simple format, where joystick controls and reflexes are all-important.

### ALL AROUND THE WORLD

It will feature six circuits from around the world, including Phoenix, Monaco, Monza, Silverstone and Rio de Janeiro. Needless to say, some of the courses will be very tricky indeed, particularly Monza and Phoenix. A couple of hours spent familiarising yourself with the relevant circuits will be time well spent.

However, Codemasters will maintain tradition and ensure that the player will be running the gauntlet by taking the car through a testing qualifying round.

Once this has happened, you will challenge or be challenged by another racer

before you go on to enter the Grand Prix proper.

Stick and carrot will be provided in the form of better - or worse - cars, depending on your performance. Eventually, the aim is to emulate Nigel and become the best driver on the circuit.

*Slicks will be testing your joystick skills, and this player has certainly lost the challenge!*

**Slicks** will also contain a head-to-head option, allowing you to race against a friend. Currently, the idea is to have both racers with five lights displayed in a status panel, and each time an opponent is raced off of the screen, one of their lights becomes yours. Win all of their lights and you win the game.

### MICRO MACHINES

The concept for **Slicks** has been taken from Codemasters' console race game, **Micro Machines**, and will use the traditional overhead view. The graphics aren't looking that strong at the moment; the cars are very small indeed and the background is nothing more than ordinary. The scrolling, however, is exceptionally smooth.

The racing will take place in the top three quarters of the screen, while the bottom will contain all the relevant information such as the race time, the current lap time, the fastest recorded lap, the current lap number and your speed per hour.

### LIGHTNING REFLEXES

**Slicks** looks set to be an action-packed game with plenty of atmosphere. The emphasis will be on joystick control, lightning reflexes, courageous decisions and intuition. It's due out around the middle to the end of January 93.



*Things get out of control at Phoenix, with a mass pile-up in the opening lap!*



# DYNA BLASTER



A double bomb drop has devastating effects.



Bombing your escape portal can unintentionally release many deadly monsters.

*Dyna Blaster, UBI Soft's totally addictive blow-em-up, is coming to the ST early in January – and Wayne Legg reckons that it's looking like it was worth the wait...*

**Dyna Blaster's** aim is simplicity itself. Drop bombs inside a bricked-in arena, and eventually clear a way to blow up your opponents, be they your friends or the computer-generated monsters. Simplicity often makes the best games. **Dig Dug**, **Defender** and **Donkey Kong** are classics based on basic ideas. Now the ST finally gets **Dyna Blaster**, one of the most basic and ridiculously addictive games in recent years.

As you're dropping your bombs, you'll be blowing up various sections of the brick walls which, when destroyed, reveal new pathways to your opponent or access to secret abilities. These abilities do not always give you an advantage, as you will soon see...

## COLLECTIBLES

Ubi Soft tell me that the key to success will lie in selecting the right symbols for your benefit. They say: "The symbols give you the ability to make bigger and more power-

ful bombs, collect extra bombs, move faster, gain lives and explode bombs by remote control.

Although these powers sound helpful, you must remember to use them carefully, as it is all too easy to obtain the ability to move quickly only to run straight into a bomb and die!

Ubi Soft is also coding the game so that it matches the player's abilities. The better you are, the harder it will get. Each of the 64 different levels will become more difficult as you progress onwards. The better you do, the more the arena design changes there are, making the gameplay even tougher.

I can only say that from what I've seen, to experience the real levels of panic, excitement and frenzy that Ubi Soft wants to inflict upon you, it is best to play **Dyna Blaster** in multi-player mode with a few mates. **Dyna Blaster** can cope with up to five players at once, and having played the game along with four other players, I can say that it's looking absolutely awesome! It's so far appeared on almost every format imaginable, from coin-op and Nintendo to PC and Amiga. The game's original concept came from Hudson Soft Japan, who are better known for PC Engine and Super Nintendo software. The game really was a surprise hit, considering it resembles something out of an early '80s arcade.

I was told: "The multi-

player game has a subtle difference, which make this version of the game even more entertaining. The secret symbols are reduced to just three, which allow for bigger explosions, bomb collection and random effects".

The effects referred to are represented by a Skull symbol: once crossed, your character will start to flash and be in "Skull mode". This will influence your character in several ways. For example, you have to time when to lay your bombs, you might drop them as you collect them, or their explosions may be only very small.

## BOMBOOZLE

Although the aim of the game sounds easy enough, once you're running around, trying to lay bombs, and avoiding being blown up or being trapped, you will begin to

realise how fast, furious and frantic this game is going to be. Obviously swift thinking, a steady nerve, a keen eye and fast reflexes are imperative if you're going to do well.

## FOUR-PLAYER ACTION

For those of you who will want to play the multi-player option, but haven't got a joystick adaptor — don't panic! Ubi Soft will be enclosing a two-way player adaptor with every copy of **Dyna Blaster**, so at least two players will be able to experience the games mayhem. **Dyna Blaster** will be a one meg game.

**Dyna Blaster** totally deserved the "Best Multi-Player Game of the Year" award that it picked up on other formats. Let's hope that the promise it shows in the development stages brings the same kind of enjoyment to ST owners.

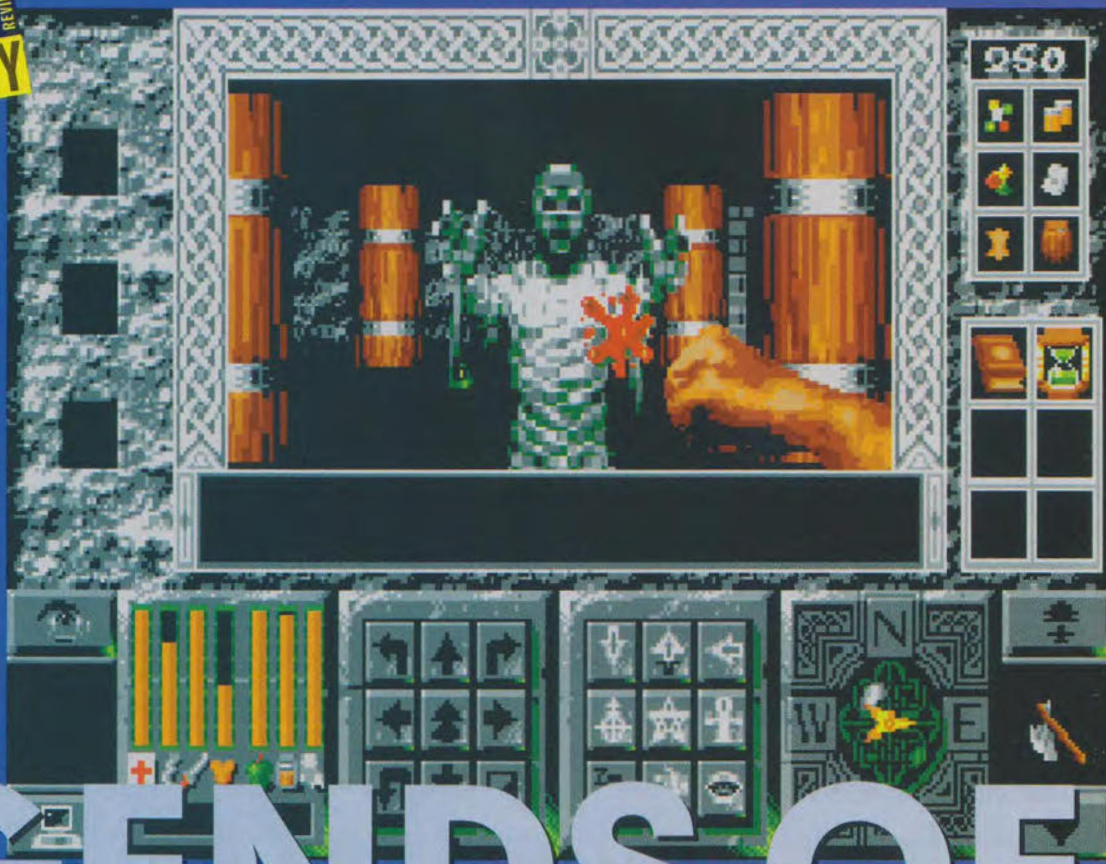




**ATARI ST**  
**ESSENTIAL BUY**

*Has US Gold really come up with the ultimate in role-playing adventures? Tony Dillon ventured to Wolverhampton to discover for himself*

*Aiming a punch in the middle of combat. The mummy doesn't look too pleased at being used as a punch bag, but judging by the number of bandages, it happens a lot.*



# LEGENDS OF

Looking back at the history of ST role-playing games, I can't help feeling that in one way or another, they've all been too limiting to be believable. US Gold's AD&D licence, for example, while providing scope for some good puzzle solving and tactical battles, could never recreate the feeling of playing *Dungeons and Dragons* with an inventive *Dungeon Master*. The Bard's Tale went some way towards correcting this, but even so its limited control killed the feeling of freedom that an RPG should have, and a bunch of statistics could never conjure up personalities. No, until now there has never been a true RPG on the market.

Now comes *Legends Of Valour*, from Midlands-based Synthetic Dimensions headed up by Kevin Bulmer, the man who put the 'Cor' into *Corporation*. They believe they might have got it right. I'm inclined to agree with them.

## COUNTRY COUSIN

You begin the game in your village. It's a Tuesday morning, which can only mean one thing – a letter from your cousin in Mitteldorf. How you

love hearing his tales of the big city, and how you long to go there yourself. Bang on time, the letter arrives, only this time rather than being full of the fun and frolics your cousin usually taunts you with, it contains an element of fear.

Something is wrong in Mitteldorf, and you know that your cousin is in danger. Without a moment's hesitation, you snatch the opportunity. This is your big chance to see the city for yourself.

## I AM NOT A NUMBER

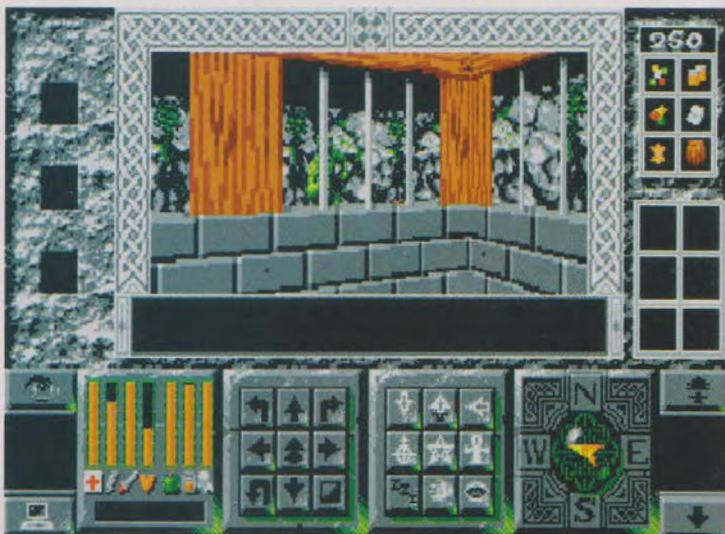
So your quest begins, but not before you let the computer know who you are. This is done in three basic stages using the character generator. Firstly, you build your face from a photofit library of eyes, ears, mouths, noses, hairstyles and facial hairpieces to create your look. Then you buy weapons and armour, and finally name your character. Once done, you find yourself just inside the city gates. This is where things get really interesting.

As far as the plot goes, that's really about it. There isn't really any more. At least, there isn't a single, defined,

path of action. There is, however, a mile and a half by a mile of city buildings to explore and who knows, maybe you might find yourself with some interesting tasks to complete. The aim of the game – initially at least – is self-promotion. As in any civilisation, there is a pecking order in the city, and as the boy from the village with little knowledge of the world, you are right at the bottom. There are seven guilds in the town, each of which has various

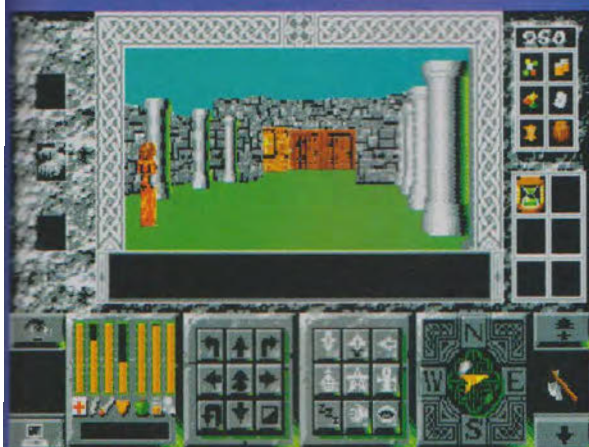
ranks to ascend and can offer you different abilities. For example, the Fighter's Guild will increase your combat ability which prolongs your survival, whereas the Magician's Guild will grace you with some attractive magical capabilities.

Joining them, like being promoted within them, is a case of proving what you can do by fulfilling tasks set to you. This could be anything from retrieving an item to acting out a scene from Macbeth! As



*There's no better place to take the family than the zoo. Where else can you see lizards like these in captivity?*





*In such a large city, there is a lot of variety. This is Pillar Walk, on the way to one of the temples.*



*In the shipyard are vessels just waiting to be hit with bottles of champagne.*

*The largest view window possible. You can see everything clearly in this mode, but the game runs slower.*

*One of the town's many pubs, the Jug Of Ale. Here you can eat, drink, be merry and then sleep. What more could you want?*



# VALOUR

you start to work your way to the top of the guilds you join, you learn more about your ultimate quest.

You have to pay for each quest you take part in. The more you are charged, the more dangerous the quest is likely to be. It might seem a little cheeky to have to cough up for promotion, but the benefits more than make up for this. Money is a key part of the game. Without it, you can't buy food or pay for shelter. The easiest way to

make money is to trade. Buying low and selling high, you are sure to amass a small fortune, but it is time consuming. If you want a quicker buck, you could just pick pockets, but unless you are a member of the Thieves' Guild, you are likely to be caught. The other way to make money is to gamble in an inn. Every inn offers a number of games, such as Find The Jack, Which Cup Is The Pea Hidden Under or Cockroach Racing. Don't play

them too much, or you're likely to lose more than you win. Once you have a little money, you can spend the evening in the same inn, eating a little Zombie Brain, drinking some home brew ale, and then sleep it off in one of the inn's rooms. That isn't, however, likely to help you win the adventure.

## ELITIST

In some respects, the story of *Legends Of Valour* draws comparisons with a game like *Elite*, rather than *Dungeon Master*, in that you are more or less a free agent. You don't have to carry out the quests set in order to progress, nor is trading the only way of making money. This game is played in real time so that you live 24 hours a day, 365 days a year. You have to worry about your health and wealth, and most importantly, your biggest concerns are staying alive and obeying the laws of the city.

Mitteldorf's legal system is very strict. If you spend too much time in the same place, you can be arrested for acting suspiciously. Vagrancy is illegal, so finding a bed to sleep in is very important. Looking through windows is another offence, as is beastly

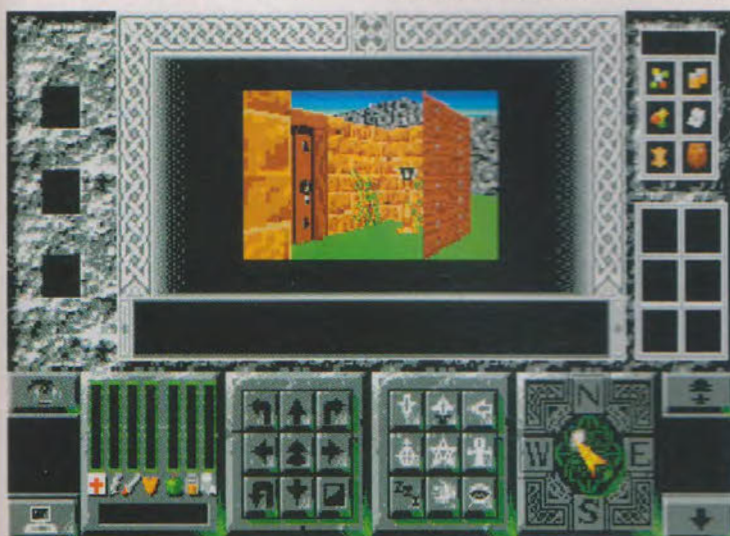
behaviour, owing rent or even being drunk. The entire town is crawling with police, who will pull you up on the slightest charge.

Possibly the two strangest crimes, though, are those of Vampirism and Lycanthropy. Yes, you can be arrested if you should happen to become a Vampire or a Werewolf. Mind you, these things have their advantages. Take Vampirism, for example. On the one hand, you're a blood-sucking parasite with a strange set of teeth, on the other, you are extremely strong, very appealing and have good taste in clothes. Lycanthropy is another thing altogether. The only way of telling if you are a werewolf

Stunning, detailed graphics  
Perfect control system  
Excellent plot  
Amazing game design

## PROS AND CONS

Daunting at first  
Easy to get lost



*The smallest view window. Even on a screen this size, details aren't too hard to make out, and the game does run at a cracking pace.*





If you're bored of seeing open brickwork everywhere you go, then why not take a look at these rich tapestries in the castle.

Your spellbook in an advanced stage. To begin with, you'll only have the Portal spell (top left corner), and as you progress, you learn more.



The Ankhs on the wall can only mean one thing – this building is a temple. In this case, it's the Temple Of Set. Dare you join the legion of snakes?

is to wait until nightfall. If at this point you find you black out, and the next thing you remember is waking up in a strange part of the city with no recollection of the past eight hours, then you're probably a werewolf, or an alcoholic. As for everybody

else, well, for the most part they just go about their business. In a town the size of Mitteldorf, there are a lot of people, so the program only keeps tabs on the 256 nearest to you. Each of these people have lives, as you'll discover if you follow one around. They get up in the morning, go to work, leave work in the evening, and might go to the pub for a quick drink before setting off home for a good night's sleep. Because it's only a small town, if you launch into an unprovoked attack on a person you run the risk of their brother or another relative avenging their sibling's battering.

Both Lycanthropy and Vampirism are illnesses, though, and like most illnesses, you will get better. Mitteldorf, just like any other fictional town of its time, is riddled

with dozens of ailments, of which the previous two are something in the middle of the list in terms of seriousness. Sure, typhoid or similar poisoning/wasting diseases are unpleasant to have, but how about leprosy or even possession? You can wait these things out and hope you get better, or you can seek some expert medical advice. If you don't fancy that, you could always go to one of the temples and ask the monks there if they'll do the job for you.

### WANNA MAKE SOMETHING OF IT?

Sometimes, people will just walk up to you in the street and fight you. To be entirely accurate, they don't fight you outright. They just walk up and say you dress like a diseased troll or something equally insulting. It's up to you to strike the first blow. The regularity with which this happens is down to your Appeal level.

A lot of things determine how appealing you are. First, there's your looks, as determined by the face creator. Then there's your position in the hierarchy. The further up you are, the less trouble people will make for you.

You don't actually have to fight people; you could just hold a conversation with them, and this is the only way of finding out the bulk of the information you need. By clicking on the 'Talk' icon, you are presented with a brief menu containing the start of questions such as 'Where is' or 'What is'. Once this is selected, you are given a second menu, containing all the relevant endings. Basic words are included, such as 'we', 'you going' and so on, as well as any topics you may have heard about. If you are

## CONTROL-O-MANIA

There are two different ways to control your character in *Legends Of Valour*, and both are with the mouse. In the first, banks of icons at the bottom of the screen let you move around the game. Clicking on the right mouse button brings virtual reality control to the ST. Moving the mouse left or right rotates the player where they stand, and pressing the left button makes them walk forward. This is a very easy system to use, and one that lets you forget you're using it.

## INSIDE INFO

Kevin Bulmer knows that one of the nicest things about *Corporation* was the chance to put your own face in the game. While not absolutely necessary, there is still a little kick to be gleaned from seeing your own face on your ID card. Not one to waste a good idea, he has used it again in *Legends Of Valour*, only now instead of seeing your face on a piece of plastic, you'll be seeing it on wanted posters, in prison, dragged in

front of the King etc. Sounds great!





Inside the Jug Of Ale. Things are quiet at the moment, but what do you expect, going into pubs early in the morning?

One of the pub games. The ladybirds are lined up, you choose which one you want to back, and the race is on!



The circle of stones aren't just a handy landmark. They are also a meeting place, so if you want to know anything, why not talk to the masses here?

The pubs also provide a wealth of information via the noticeboards. Everything you could want is listed there, from bargains of the week to mercenary employment.



on a quest for the Goblet of Tharg, then that will appear in both categories.

There's also a handy button for generating insults, should you fancy starting a fight yourself.

## AND NOW...

But now to the most outstanding feature of the game - that is, texture mapped polygons. They all said it couldn't be done, that the ST didn't have the speed to be able to surface map polygons in real time. How wrong they all were.

Texture mapping, incidentally, is a way of taking a flat surface and placing detail, such as brickwork, upon it. As you change and manipu-

late the surface, the detail changes accordingly.

You'd think that all this processing would slow the game to an unplayable speed, but you'd be wrong. The viewing window can be set to three sizes (small, fairly small, very small) with the frame rate increasing as the window decreases. At its smallest setting, the speed is blistering.

## STUNNING

Although small, the view on the world is beautifully detailed, giving a sense of realism that very few games have ever created.

Flat polygons are fine for futuristic games, but when it comes to the more medieval

age, there's nothing like a bit of brickwork.

This means that you can walk and run in any direction you want, rather than the four-way control offered by most other games. The *Bard's Tale* series offered you the chance to walk the streets of various towns, but were restricted to compass-point movements. *Eye Of The Beholder* was supposed to be huge, but the map of the dungeons in this game are more than EOB1 and 2 put together. This is the first game of its kind that offers you true freedom.

## GENUINELY CLOSE

All in all, *Legends Of Valour* is the closest we've ever come

to a genuine computer role-playing game. By working along the lines of a simulation rather than a sequence of puzzles, Synthetic Dimensions has managed to create a real world, with real people and real problems. It's going to be a long time before we see something to top this.

**"The ultimate in adventuring. A perfect game"**

**NAME: LEGENDS OF VALOUR**

**COMPANY: US GOLD**

**CONTACT: 021 625 3388**

**PRICE: £25.99**

**RELEASE DATE: OUT NOW**

**MIN MEMORY: 1 MB**

**GRAPHICS** ○○○○○○

**SOUND** ○○○○○○

**VALUE FOR MONEY** ○○○○○○

**PLAYABILITY** ○○○○○○

**OVERALL** **95%**

# BUYERS GUIDE

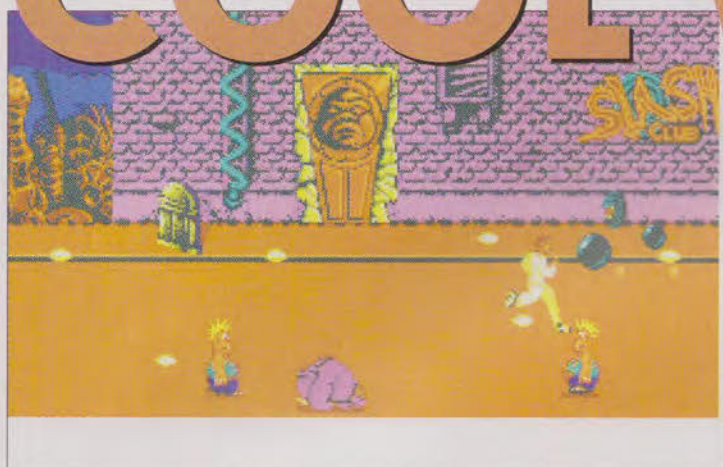
We've all conceded that *Legends of Valour* is the best of it's kind. Let's see how it compares with the rest

|                            | Puz | Atm | Gra | Sou | Overall |
|----------------------------|-----|-----|-----|-----|---------|
| 1 <i>Legends Of Valour</i> | 8   | 10  | 10  | 9   | 95%     |
| 2 <i>Knightmare</i>        | 8   | 8   | 7   | 7   | 85%     |
| 3 <i>Dungeon Master</i>    | 6   | 7   | 5   | 5   | 83%     |
| 4 <i>Corporation</i>       | 8   | 8   | 8   | 7   | 82%     |

Key: Puz=Puzzles, Atm=Atmosphere, Gra=Graphics, Sou=Sound.



# COOL WORLD



*Did you ever think that harmless doodles might not be so harmless after all? No, neither did Tony Dillon*

**O**h dear. Ocean Software from Manchester has released a game based on a movie that may not even be released this side of the pond. The plot is one of cosmic calamity. Jack, creator of the *Cool World* comics, has unintentionally let his creations run wild, and naturally, this causes a cosmic imbalance, as they enter the dimension they were never meant to, and start to steal objects and deposit them on the other side of the vortex. You, as Harris, are the only one who can put things right.

## WALKING THE STREETS

You start the game in the mean streets of Cool World, slaying renegade cartoons and artists' doodles, whose coins you collect when you shoot them with ink from your fountain pen.

With this money you can buy your way into the various levels of the game. Once you have located the doorway to the next level, using the handy map, the game switches from a pseudo-3D cityscape to a two-dimensional side-on view of the action.

*Here you are, running around in one of the game's 16 levels. Spot the platforms.*



This is the real meat of the game.

As far as being meat, though, it's a little lacking in the nourishment department. The basic idea is to shoot all the doodles that escape to the real world, and collect any items they may have taken to Cool World with them. And that's all folks. . .

## PROBLEMS, PROBLEMS.

Right from the start, *Cool World* isn't fun. The poor flip-scrolling is instantly apparent, along with the sluggish controls. On this stage, the collision detection is appalling and makes a total mockery of any 3D effect. Collecting the coins, for example, is merely a case of touching the coin graphic with any part of your body. The rest of the game is, sadly, worse. The controls get even sloppier; even using my favourite joystick, I found it impossible at times to jump diagonally. The problem is really caused by that awful flip-scroll. You can't move forward if the screen is scrolling, so woe betide you should you want to jump onto a platform on the edge of a screen.

Admittedly, the main character is nicely animated, but the hideous, nay, disgusting backdrops leave a lot to be desired. Take the platform sections for example: the backdrops are awash with platform-looking levels – but only a third of them are actually usable.

I had to get a second and third opinion. I showed *Cool World* to an ST-owning friend. He hated it from the start. I showed it to the ST Review editorial team. They also hated it. Buy it if you want, but you'll hate it too.

*Above left: In the streets you have rabid dogs, cool kids on skateboards and unidentifiable circles on the road.*

*Above: The very handy map. The arrow is you, the splashes are the entrances to the levels.*

Excellent intro sequence

## PROS AND CONS

Unresponsive controls  
Dull gameplay  
Confusing graphics  
Extremely repetitive

*"Unplayable rubbish from start to finish. Not worth the disk it comes on"*

NAME: COOL WORLD  
COMPANY: OCEAN  
CONTACT: 061 832 6633

PRICE: £25.99  
RELEASE DATE: OUT NOW  
MIN MEMORY: 1MB

GRAPHICS: ○○○○○○  
SOUND: ○○○○○○  
VALUE FOR MONEY: ○○○○○○  
PLAYABILITY: ○○○○○○

OVERALL **39%**

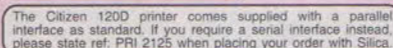


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| SILICA PRICE:      | £115 |



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Which computer(s), if any, do you own? ..... 55M

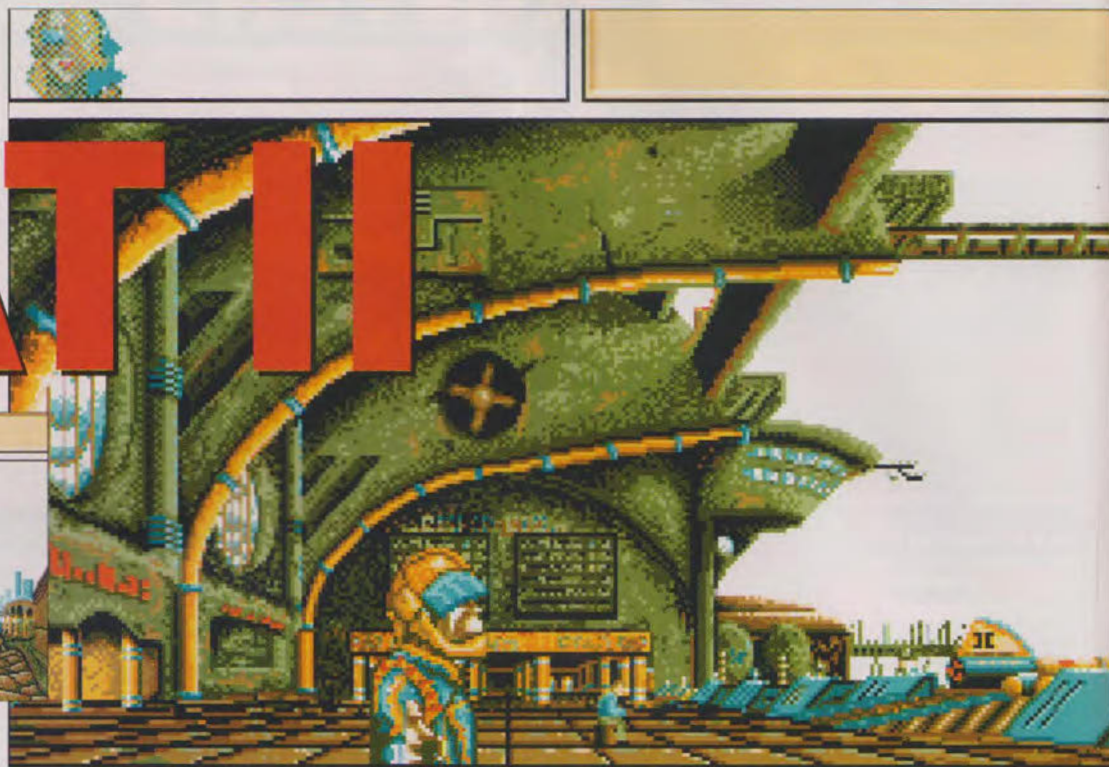


On the streets with your BAT agent.

# BAT II



A typical split-screen display.



*Can crime in the 22nd Century be curbed? Wayne Legg charges his laser pistol and investigates...*

The original **BAT** was released almost three years ago when it was hailed as a well-designed and challenging adventure game. Since then the French team of game designers, Computers Dream, have been listening to what players have had to say about it, while designing and programming the follow-up.

The result of all this is **BAT II**, which is far superior to its predecessor. In this game, you play the part of Jehan Menasis who is an agent of the Bureau of Astral Troublshooters, BAT for short. You can either tailor Jehan to your own specifications via the game's easy-to-use character creation system, or pick one of the many pre-designed agents that are logged in at BAT HQ.

A BAT agent is a sort of cybernetic James Bond, whose job is to 'resolve' problems between large companies and governments before they escalate out of all proportion. Enhanced with cybernetic qualities, BAT agents are freelance and are allowed to solve these problems as they see fit using everything at their disposal.

## PLANETARY ASPECTS

The game is set on and around the planet Shedishan at the beginning of the 22nd century, and it is your job to liaise with your fellow agent, Sylvia Hadford, to try to end the planet's monopoly of

Echatone 21, a very precious material.

When your character first sets foot on this futuristic world, the first thing you notice is the absence of a clearly defined plot. Having met Sylvia, who has some information that points you in the right direction, you can investigate this game at your leisure. The game's many plot-lines run parallel to each other and converge at certain points, all of which lead to the next part of the adventure.

To get anywhere you need to interact with the non-player characters. When you start adventuring, lots of characters will walk past you; they are there for you to talk to, buy from, sell to or recruit. As they pass, your cursor turns into a pair of lips and by simply depressing the left mouse button, you can stop and

conduct business with them. Make notes of which items characters hold, as you will need certain special objects to complete the game.

Initially, you will want information from them and every character seems eager to talk. Information is passed in a similar way to the system used in *Times of Lore* and the newer *Ultima* games.

When a character speaks you can select certain subjects they have mentioned via the mouse and more information will be displayed about this subject.

Any important information that you have learned is stored in the agents vocabulary, so when you meet someone new, you can simply move to the subject you want to talk about and click on it with the mouse.

As you move through the game, you slowly but surely become aware of the plot. It is good to know that you will not be penalised in one part of the game if you have problems with the others. Indeed, your options are always open, and it is nice to come across an adventure where it is almost impossible to become stuck at a certain point, unable to continue.

If you come to a place where you need information or a specific object to progress, the screen displays a large question mark, showing that you must once again pursue your line of investigation for more information or items.

When you move around the various locations, you are in



Free-form of adventure, with not many sticking points or constraints

## PROS AND CONS

The game is so free-form, sometimes it seems that you are getting nowhere. A lot of the characters give out the same information far too often.





To talk to someone, click on them when the pointer turns into a face...



...and ask them about any subject you like.

for a pleasant surprise. If you enter a shop and find that there are various smaller locations running off of it, the screen splits into two parts when you move into the smaller areas and you can see the second location next to the first on screen. Again, if there is another sub-location off this area and you enter that, the screen splits into four smaller sections and you can see what is happening in all of them.

To describe **BAT II** as a simple adventure would be inaccurate. It also contains a lot of elements from contemporary role-playing games, including the development of your character through statistics, an increasing skill level system, the need to sustain your character's bodily functions, as well as a realis-

tic multi-option combat system. There are plenty of arcade-action sequences to pad the game out. These don't have to be played, but they're there if you want something to take your mind off the puzzle solving.

### SECONDS OUT

Combat, which makes up a considerable part of the game, can be played on an arcade or strategic level. The arcade version is very similar to **Hostages**, where you fire at the infra-red shapes of your enemies as guided by intelligent sighting devices, while the strategy game is akin to some war games.

There are a wide range of weapons available - for both hand-to-hand and long range combat - as well as armour. It's advisable to obtain both

as soon as possible, as your character exists in a hostile environment.

Most of the weapons can be picked up at shops, although you need to travel quite a distance to find one that sells anything really powerful.

Although regular combat is an option, the 70-page, well-written rule book suggests that you should allow your character to "melt into the adventure, rather than romp about recklessly". Adventure is not the only aspect of the game, you should feel free to drop into several bars, have a drink or visit the video arcade room, where you can actually play games that are similar to **Arkanoid**! Indeed, it is possible to make a lot of money for your character by gambling with your real world joystick skills in the video arcade, and this is a distinct advantage for good arcade players.

### FINAL CONFLICT

The graphics throughout the arcade sequences - and most of **BAT II** as a whole - are good, but not exceptional. Sometimes it's difficult to see some items clearly and a good deal of squinting and clicking on various bits of the screen is involved.

Another criticism is the driving element. To travel to certain locations you have to take a taxi or futuristic plane, which you can drive yourself, and frankly it seems as if these aspects they were added for the sole purpose of taking money away from the player and thus stop them advancing through the game too rapidly. I found them both boring and a complete waste of time.

These areas are easily counterbalanced by other aspects of the game, such as BOB, a

computer that is located inside your left wrist! Basically BOB tells you how your vital signs are functioning, and can even be programmed. It has its own real-life programming language which players can learn! It's not necessary to master B.O.B., but if you do understand the language it makes playing the game much easier.

With **BAT II**, Computers Dream has combined some of the better aspects of both adventure and roleplaying games, to good effect.

The game is huge - it has over 200 screens - and should keep fans of both adventure and role playing computer games happy for many, many hours.

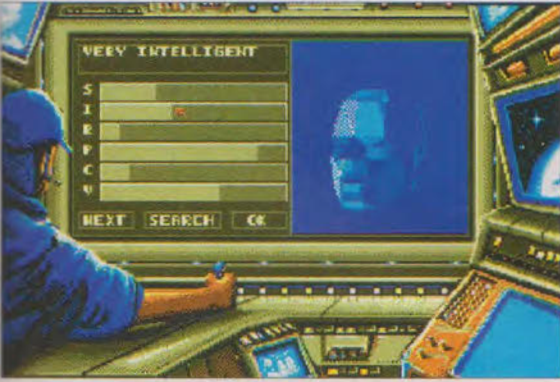
**"Exciting and challenging adventure with few dull moments"**

**NAME: BAT II**  
**COMPANY: UBI SOFT**  
**CONTACT: 081 343 9055**

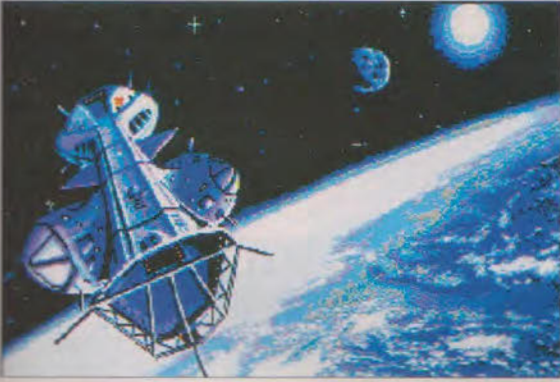
**PRICE: £35.99**  
**RELEASE DATE: OUT NOW**  
**MIN MEMORY: 0.5 MB**

|                        |       |
|------------------------|-------|
| <b>GRAPHICS</b>        | ○○○○○ |
| <b>SOUND</b>           | ○○○○○ |
| <b>VALUE FOR MONEY</b> | ○○○○○ |
| <b>PLAYABILITY</b>     | ○○○○○ |

**OVERALL** **84%**



Your BAT agent has a number of attributes which can be altered. It's usually best to go for a mix rather than have an exceptionally strong or intelligent agent.



BAT HQ is where you choose or design your agent.



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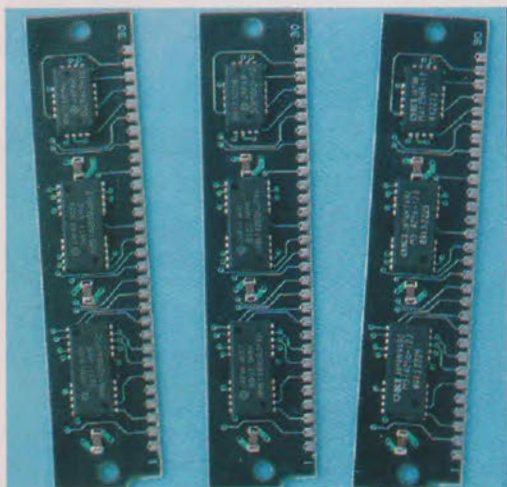
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# STEP FORWARD

## Into the world of **music**

### SAMPLERS & SEQUENCERS EXPLAINED

**SAMPLE:** A sound that has been loaded into a computer and is represented by numbers (digital) rather than noises (analogue).

**SAMPLER:** Usually a small cartridge that allows you to take sounds from a microphone (with amplification), tape, CD etc and record (digitize) them into your computer's memory. Once in the memory a sample (sound) can be changed using the sampling software.

**SAMPLING SOFTWARE:** Allows you to alter sounds that have been digitized by the SAMPLER. Normal functions with sampling software include loading and saving a sample disk, altering the sample by cutting, speeding up/down, fading in/out, joining to other samples and much much more.

**SEQUENCER:** A sequencer takes musical notes and then allows you to play them back in an order (Sequence) that you determine. Microdeal make two types of sequencer, **QUARTET** is a sample sequencer and plays back samples out of the computer. **CONCERTO** is a Midi sequencer that plays back musical notes using any Midi Instrument.

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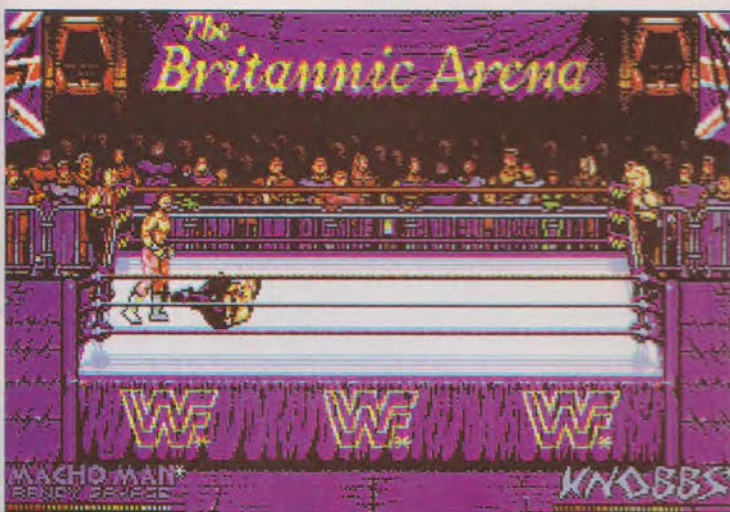
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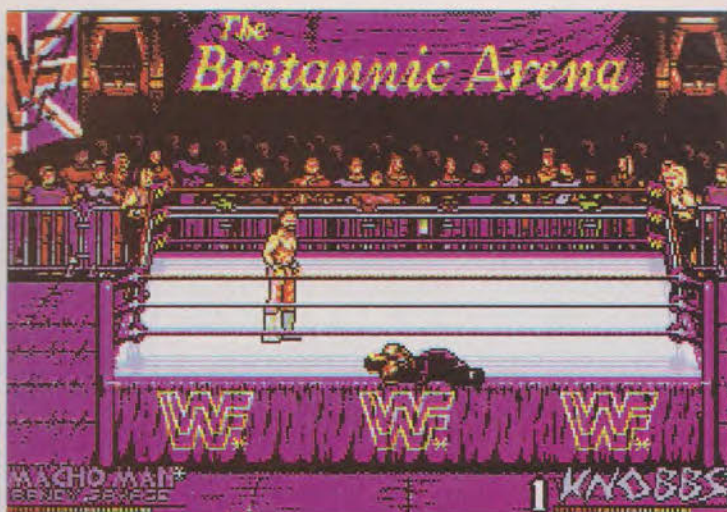
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Rolling into your opponent's legs is a sure-fire way of knocking them down.



When a wrestler steps out of the ring the ref begins a 10-count. If they're not back in before it ends they're disqualified.

# EUROPEAN RAMPAGE

The boys from the WWF are back; Mark Patterson digs out his leotard and joins the fray...



They're big, they're bad, some are bald, and they're back in their second ST outing. This time the stars of the World Wrestling Federation are teaming up to battle it for the world tag-team championship.

Before you get down to bat-

ting, you have to form your tag-team. There are four wrestlers to choose from, Hulk Hogan, Randy 'Macho Man' Savage, Bret 'Hitman' Hart and the Ultimate Warrior. There doesn't seem to be any difference between them apart from their theme tunes and the graphics. The four rival teams are a different kettle of fish though. The first match is against the Nasty Boys, who are easy to overcome, but the subsequent teams use a wider variety of moves and are a lot tougher to wear down, and the final battle is enough to challenge the most seasoned pro.

## TAG-TEAM PARTNERS

Each wrestler has a limited amount of energy, which is shown as a bar at the bottom of the screen. When it's been depleted through the rough and tumble of squared-circle action he runs the risk of being pinned to the mat. Because this is tag-team competition, a weakened wrestler can attempt to make it back to his corner and tag his partner, bringing him into the ring. The star can then take a breather and recover some of his lost energy.

Before a wrestler can get to grips with 250 pounds of spandex-clad opponent he has to soften them up. Pressing the fire button unleashes a volley of kicks, punches and slaps, and it takes three hits to leave the other guy reeling. In this position they're ripe

for throwing, although if your wrestler has less than half a bar of energy he'll probably buckle under the weight.

## OUT COLD

Mis-timing a move can be as dangerous as getting hit. For instance, leaping off a corner post or failing to connect with a flying kick will leave your wrestler winded, entirely at the mercy of his opponent's boot. The action isn't limited to the ring though. The best way to put an opponent out of action is to dump them over the ropes and onto the concrete floor.

If you're bored with the computer teams there's a two-player head-to-head mode which includes handy keyboard controls for those who don't have two joysticks. Mastering the moves can be tough to begin with, so Ocean has thoughtfully included a practice mode which allows you to try out the various holds and throws without fear of losing.

*European Rampage* is a respectable game if nothing else. The graphics are tidy,

although some of the characters aren't well defined and the animation is slow. The length of the bouts can be annoying; it can take up to 10 minutes to win a fight. Disk swapping is another nuisance. If you don't use your credits at the end of a match you have to swap disks and the game loads from scratch, which means that you have to sit through screens full of trademarks and copyright info. Don't expect anything along the lines of the *Rampage* coin-op - this is fun for a while but is really only a game for die-hard WWF fans.

*"One for hardened WWF fans only"*

NAME: WWF2 EUROPEAN RAMPAGE  
COMPANY: OCEAN  
CONTACT: 061 832 6635

PRICE: £24.99  
RELEASE DATE: OUT NOW  
MIN MEMORY: 1MB

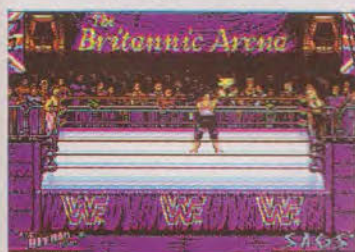
GRAPHICS ★★★★★  
SOUND ★★★★★  
VALUE FOR MONEY ★★★★★  
PLAYABILITY ★★★★★

OVERALL 69%

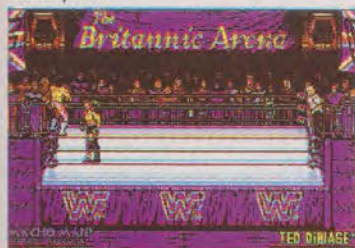
Plenty of characters  
Good presentation

## PROS AND CONS

Slow and repetitive  
Bouts take too long



Dropping your opponent on his head usually causes plenty of damage, but for best effect follow-up with a leg drop on their face.

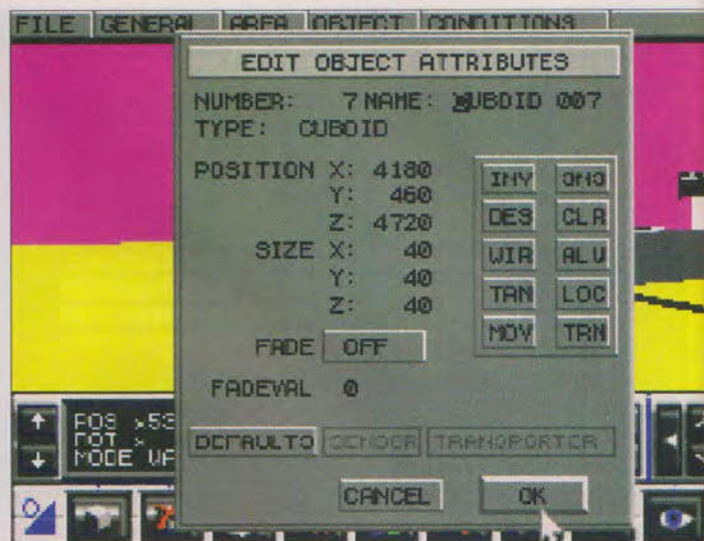


A flying kick from the corner post looks impressive, but if it fails to connect your wrestler will be left stunned on the canvas.





The new group of building blocks. Notice the two additions at the end.



Each object can have various attributes tied to it, from tangibility to visibility. Here's where you set them all.

Has Domark moved  
that little bit closer  
towards Virtual  
Reality in the home?  
Tony Dillon swings  
his head about

# 3D CONSTR



Incentive caused quite a stir six years ago when it unveiled *Freescape* to the 8-bit owning public. Never before had filled-polygons been so fast and so realistic. *Driller*, the first game to incorporate that system was an instant hit, as were the following games, *Castle Master* and *Total Eclipse*. Then came *3D Construction Kit*, a game creation tool that let you compile your own 3D landscapes, fill them with puzzles and produce an adventure game. It sold bundles, naturally, not because it was advertised as a games creator, but as a 3D workstation, where you could build

the home of your dreams, or design stunning logos. It did the job well, but by that time the 3D standard set by *Freescape* had been surpassed by the *Oceans* and *Novagens* of this world. A lot of decent quality titles were written on it, but none have gone any further than the Public Domain market.

When all is said and done, *3D Kit* was unique for its time, and like any new type of product, people had their complaints. Maybe the buttons were the wrong shade of grey, or there weren't enough ways to manipulate a cube. Quite a few suggestions were made, and now we have *3D Construction Kit 2.0*, the next step towards Virtual Reality in the home.

As before, the general idea behind the package is one of creating fully-working 3D environments. This is done by 'building' the various rooms and areas within your game and then adding attributes and properties, such as doors, which open when shot in a particular way, or blocks that disappear when walked on. This time, Incentive has tried to make the whole process easier, while at the same time giving the user a whole batch of new tools and tricks.

## THREE PROGRAMS

The first thing you'll notice when you boot up to the desktop is that there are three programs on the disk - the

editor, the game creator and the sound editor. Like most things in this package, these work in a hierarchy. Objects and sounds are created first in their respective programs, and the saved units are loaded into the editor which is used to join them together. Everything is then run through the Make Game program which turns it into a standalone program.

Everything can be designed using the editor by itself, but it's a lot easier using the separate utilities.

At first glance, the object editor doesn't look much different, with similar menu bar and control panel to the origi-

## INSIDE INFO

Ian Andrew of Incentive really took the bit when he started work on *Freescape* seven years back. In fact, he liked virtual design so much he launched a new company and professional system, *Superscape*. Running on a 486 SVGA PC, *Superscape* is a single screen virtual reality development kit, and a very impressive one at that. In one demonstration, a full office was displayed which featured, among other things, a fully functioning pencil which, when picked up, was more than capable of writing on the walls. The cost? A measly £11,000 will buy you the lot!



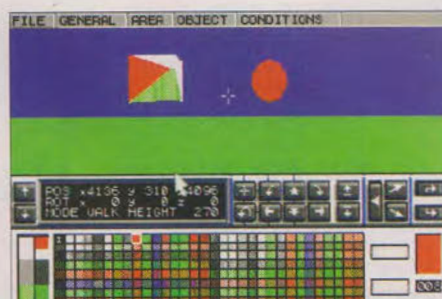
Just one of the many objects supplied with the package on a clip art disk. It might look nice, but the effect is spoiled when you see how slowly it moves.





Free with the package is a mini-sample editing suite. Here, samples can be cut, spliced and have a variety of effects added before being plonked into your game.

Colouring the two new objects. On the left is the flexi-cube, and on the right the sphere which, you'll notice, isn't all that spherical.



The more complicated the objects you create the slower they move.



# UCTION KIT 2.0

nal. But then what did you expect? The original worked fine in this respect, so why change it?

## DESIGN FIRST

Once you have your basic game idea - and it pays to produce some form of design on paper first - you can start

## ATTRIBUTES

Each and every object that you create has a number of adjustable attributes. They are as follows:

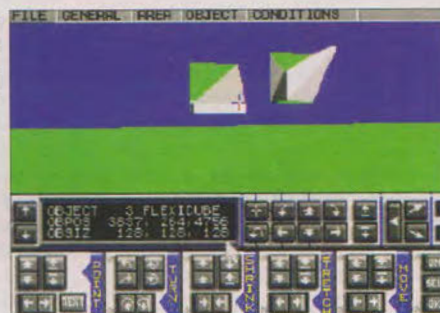
- INV:** Makes an object invisible, but not intangible.
- DES:** Destroys an object (disables it and makes it invisible.)
- WIR:** Displays the object as wireframe.
- TAN:** Makes an object intangible, although it is still visible.
- MOV:** Makes an object movable.
- SNS:** Turns the object into a sensor.
- CLR:** Turns the object into one which can be recoloured.
- ALW:** Constantly recheck any conditions set for this object.
- LOC:** This turns off any animation.
- TRN:** Makes the the object a transporter (that's a door to you and me)

building your first area. Initially this, too, is exactly the same as the original.

The view window is split across the middle, the top half being the sky and the bottom the ground. The object designer is quite a sophisticated system, although it does take a bit of getting used to; you also need to pay a lot of attention to be paid to the measurements displayed at the bottom of the screen, which show the current object's size in all dimension. The first step is to select the 'Create Object' icon at the bottom of the screen. Straight away the first major difference appears in the form of two new objects to play with - a sphere and a flexicube.

A flexicube is like a normal cube, the difference being that you can move the vertices about. Not by any huge amount, but enough to produce the sort of objects that you couldn't make on the original without sticking

Two of the shapes that are possible by bending flexi-cubes. By pulling the points in, things just get wackier.



other objects together. Polygons aren't as easy to manipulate as in **STOS 3D** though. You can only move the points into the object, not out, so you can't make it any larger than the size of the cube or cuboid you're forming it from.

## NEW FEATURES

Once you have your first object in place, you can try out some of **3D Kit 2's** new features. Clicking on the attributes icon calls up a menu containing a whole host of properties you can install in your object. For

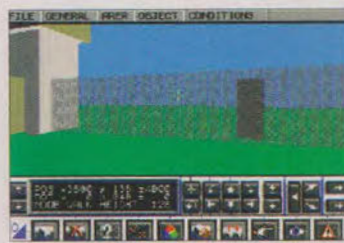
example, you can make the object transparent, have it fading in and out, even have it change colour at regular intervals. If that isn't enough for you, then what about the facility to make objects intangible, that is to say, so that you can walk through them? This is ideal for hidden doors. Or you can make them teleporters, which are similar to doors only less obvious. Last,

## FADING AWAY

One of the more interesting options added to the system is the fader. Now you can have objects that flash, fade in or out, or do any combination of the three depending on your instructions. Have buildings that disappear when you fire the hyper-gamma gun at them! Have prison walls that appear around you when you set off a trigger! Have floors that pulsate endlessly, just to annoy the player! The possibilities are endless.



To speed things up, you can display objects in wire-frame, but it doesn't half spoil the effect.



This wall has been set to fade when shot at. Here it has half disappeared.

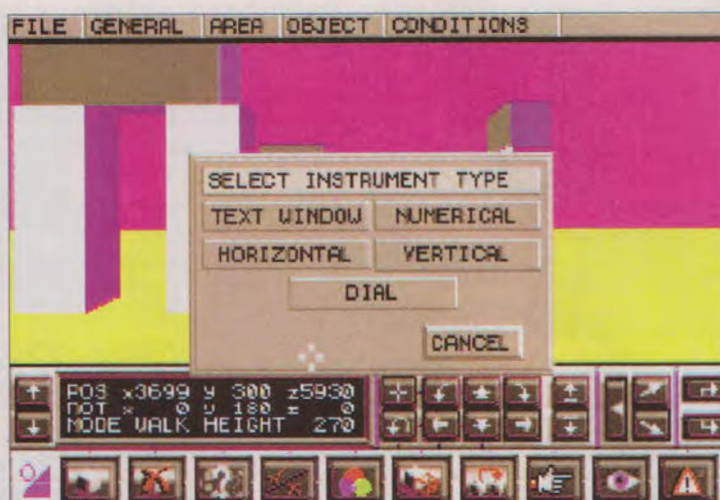


but by no means least, you can make them sensors, which can be programmed to carry out actions should they detect anything during the course of the game.

The basic game system has remained unchanged, however. Objects are placed in numbered areas, which are linked by doors and all go together to make up the game world. That's the easy part. What takes a fair bit of time to get to grips with is the Freespace Command Language (FCL), which is the core of the program. For every area and object you create, you can create sets of instructions, or conditions, that govern what goes on in these areas. For example, if you have an object which represents a closed door, that opens when shot, you have to write a small object condition that tells the object to move to a new position when hit.

## BASIC ROUTINE

Resembling a cross between English and BASIC, the language isn't a difficult one to use. Most commands use common sense mnemonics, such as MAKEWIRE, which displays an object in wire-frame instead of filled 3D, or COLLIDED?, which checks to see if two objects have connected. The original FCL was a limited, command line system that was a little unpredictable, if not downright painful to use. This new, almost completely reworked system, is a gem. Now you have complete control over every aspect of every object, and most routines fit into a couple of lines. You can change the colours of objects as well as the way the program handles them. Let's say you are working on an outside location. By setting the colour instructions to work with a timer, you can quite easily have day and night



cycles, or by changing the tangibility of an object, you can activate secret doors once a particular task has been fulfilled.

## PROCEEDING NICELY

One particularly handy inclusion is the Procedures feature. Before, you had to rewrite the same routines over and over again if you wanted them to apply to more than one object. This package lets you label these repetitive pieces of code as Procedures, and call them from anywhere you want. Using the day/night cycle as an example, imagine your adventure has a dozen outside areas. Rather than rewrite the cycle routine 12 times, you can now write a procedure called 'Cycle', and call on it when necessary.

Despite all its clever features, **3D Kit 2** has one major drawback - it's slow. Basically, anything you write with this package would fail to come anywhere near professional standard, unless you wanted to write a snail

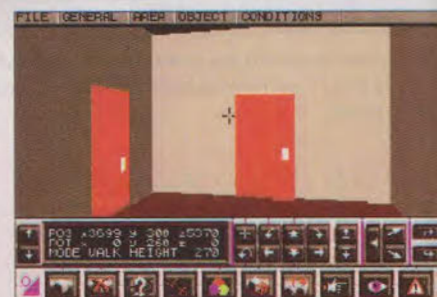
simulator. The controls are sluggish, surprising considering that it's mouse controlled. The time taken between holding down the mouse button and the program recognising it is about a second. Should you have any objects fading that extends to about three seconds. The ST is more than capable of displaying polygon graphics at speed, so why should one cube slow everything down so much?

## CONCLUSION

After using the package for a couple of days, I have to admit that I didn't enjoy it at all. The original was a marvel, but this is little more than a let down. Its certainly capable, and can easily compete with the likes of **STOS 3D** in the variety stakes, but the pathetic speed simply destroys the point.

Want to have a timer, or a dial to show the amount of energy left? Easy, just call one up from the instrument menu.

As before, doors are made by sticking two cubes together, and then writing a short program to open them when activated.



Excellent programming language  
Very versatile  
Free instructional video

## PROS AND CONS

Far too slow  
Real-space construction can be disorientating

"Impressive statistics, but far too slow"

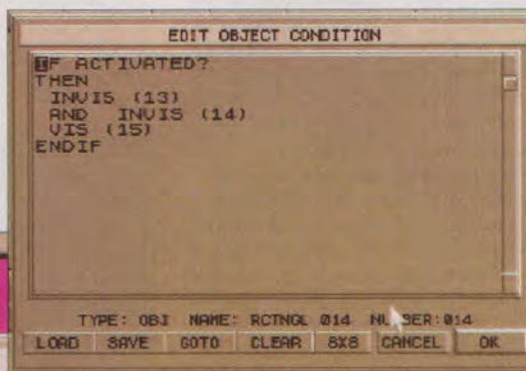
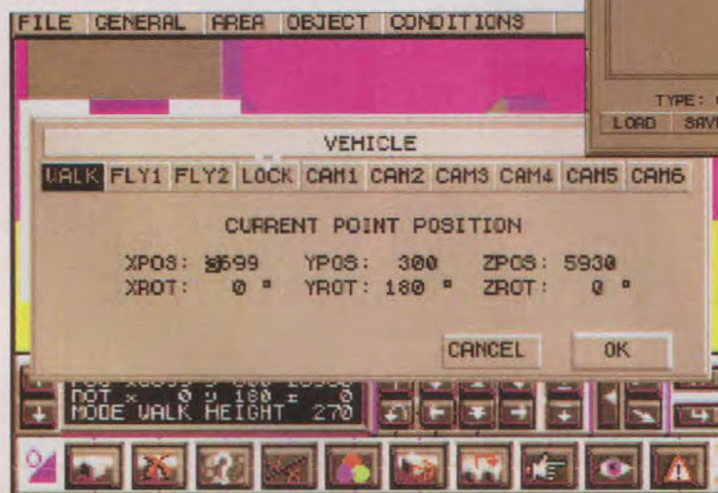
NAME: 3D CONSTRUCTION  
KIT 2.0  
COMPANY: DOMARK  
CONTACT: 081 780 2222

PRICE: £49.99  
RELEASE DATE: OUT NOW  
MIN MEMORY: 1MB

|                 |      |
|-----------------|------|
| EASE OF USE     | ☆☆☆☆ |
| DOCUMENTATION   | ☆☆☆☆ |
| EFFECTIVENESS   | ☆☆☆☆ |
| VALUE FOR MONEY | ☆☆☆☆ |

OVERALL

63%



ABOVE: Here's the program to open a door. When the door is shot, the visible door disappears, and one appears at a right angle to it, giving the impression of an opening door.

LEFT: There are numerous ways to move around your world, the most common being on foot. These different buttons house the different types of craft to cover air, land and sea.



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\*Does not include 1st Word



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# ATARI ST ESSENTIAL BUY

*Thalion, that dark horse of software houses, has wheeled out a new superbike racing simulator. Tony Kaye zips up his leathers, dons his helmet and gloves and races off*

# NO SECO



**T**he time, now. The place, various racing circuits around Europe. The event, a meeting of the six best racing drivers in the world over 25 races to decide who's best. The prize, the most stylish, fastest dream machine ever built. There is no second prize.

## THE STAGE IS SET

The machine that has been put up for grabs is a one off. There will never be another one like it.

It is the kind of bike that any motorcycle fan would love to sit on just once to do a few fast laps around a famous racing circuit. Only two were ever made, and the second one has been lost. So this is the only surviving example.

The owner wants to remain anonymous, but he's donating the machine as the prize for a unique two-part racing season. Only the best riders can qualify.

The six men and women are all masters of their own racing motorcycles which they have designed and built themselves. They all want just one thing, to be the proud owner of this piece of motorcycling history.

## YOUR NUMBER'S UP

There are 25 races in the season (although the manual, for some reason, makes it 26!). The first five consist of five laps while the last 20 are a whopping 10 laps apiece.

Lots of money, sweat and energy have been spent in preparing for this season, along with an infinite amount of patience, effort and hard work in the riders' training. The final season is now about to start.

## THE RIDERS

The selected six come from different backgrounds and have all had to endure a long process of selection.

They are: Fabrizio Adiorio, the son of the famous Italian industrialist; Michelle Dubois, the well known fashion designer from Paris; Rainer Kelpin, a relatively unknown German engineer who owns a superb collection of historic

motorcycles; George Stanford, the property tycoon from Wales; Ray Turner, an international rap music star and Miyuki Yamamoto, the head of the electronics company bearing the same name.

The two ladies and four men have all been cleared by the medical team. All the final checks on the motorcycles have been made. All that remains is to study the tracks and race!

## TRAINING

After watching the title demo, pressing the space bar will take you to the first selection screen. Here, the options are Start Season, Training, Load Game, Records and Lap Info.

To get an impression of each track, select the Lap Info option. You can then choose a track and check out information on tight corners and other hazards. The Records

option will show you who is the fastest over each particular track.

It is recommended that before you start the season, you get some training. Select Training from the menu and you can then choose which driver to be.

Clicking on their picture will give you information about how each one performs and what their strengths and weaknesses are. You can then choose any track to practice on. Information about each track and the current records are available from here too.

You need to decide whether you want to race alone or with one or all of the others; then you can select the mouse sensitivity and whether the gears change automatically or manually.

I would suggest the automatic selection to start with. Once all these choices have been made it's time to begin training.

Smooth, fast gameplay  
Accurate controls

## PROS AND CONS

Tricky at first

*"Fast and very playable simulation with all-round appeal"*

NAME: NO SECOND PRIZE

COMPANY: THALION

CONTACT: 021 442 2050

PRICE: £25.99

RELEASE DATE: OUT NOW

MIN MEMORY: 1 MB

GRAPHICS ○○○○○☆

SOUND ○○○○○☆

VALUE FOR MONEY ○○○○○☆

PLAYABILITY ○○○○○☆

OVERALL **90%**

*This screen shows you who holds the lap records and the fastest times for each track.*



*Information on the tracks themselves appears here, along with tips on driving methods.*



# ND PRIZE



*A quick getaway. This opponent will soon be history.*



*Camera two in replay showing you in front. Note the display showing your speed, gear choice and RPM.*

## VARIATIONS

This is no arcade game, which is instantly apparent. Rather than being able to launch in straight away and zoom through with no trouble at all, you'll find that it takes a little time to master the control of the bikes.

The first thing you'll notice is that each rider has very definite advantages and disadvantages. Ray Turner, for example, is very fast on the straights but not so good on the curves whereas Fabrizio is very strong on the bends but average on the straights. In addition, they have varying capacities for absorbing bumps and knocks.



*The third camera is further back and shows a lot more. The helicopter is flying overhead following the race leader.*



*Another shot from camera two showing three of your opponents just after the start.*

## SENSITIVITY

The game is controlled with the mouse and there are five sensitivity settings. Cornering skills depend on which rider you choose as does straight line speed. The bike leans over as it corners and the further you move the mouse, the greater the angle. This is great once you get used to it, but be prepared to spend a little time mastering the system.

Gear changes in manual mode are achieved by pressing the left shift button on the keyboard to go up through the gearbox and the alternate button to change down. The right mouse button is used to

accelerate and the left operates the brakes.

## TAKING STOCK

The main screen includes indications of gear selection, speed and damage to both you and the bike you are riding. A graphic representation of the track shows where you are in relation to the others. The bar at the top of the screen shows your position, as well as the lap you are currently on and two time displays; one of these shows your current lap time and the other, the total race time.

## PLAYBACK

If you want to see where you went wrong, or you made a particularly spectacular overtaking manoeuvre and you want to see it again, there are replay cameras running throughout the race.

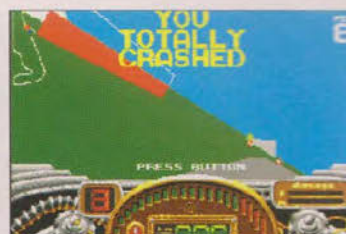
The camera number and the relative position are displayed on-screen and you can choose one of four different views of the track.

The first is a rider's eye-view of the action. The second is from a point closely behind the rider. Third is a position further behind the rider showing more of the surrounding area and the fourth position is from the helicopter camera following the leader.

This last shot is useless to you unless you have the race leader in your sights or you are leading yourself.

## CHOOSE A TRACK

The 20 different tracks are based on club and international circuits around Europe. These range from the ever popular Donington Park and well-known Formula One venues such as Silverstone, Imola and Hockenheim to



*Move over, I'm coming through! The helicopter keeps a close eye on the action.*



*Camera four is mounted underneath the helicopter.*





smaller tracks like Cadwell Park and Paul Ricard. Each has its own challenge and some suit the speed merchants while others favour those who hold line well through the corners.

There are tracks to suit everyone here, but if you're going to win the motorcycle, you need to be proficient in them all.

In addition to your fellow competitors, there is a whole range of talented young riders on the track who are aiming to improve their skills throughout the season.

These act as a yardstick to your performance as well as providing more obstacles for you to deal with on your way around. Points are awarded for first, second and third place (three, two and one) and finishing last will lose you a point from your total. The winner is the one with the highest score at the end of the entire challenge.

## CONTROLS

You steer your machine by moving the mouse to the left or right; accelerating and braking are controlled with the right and left mouse buttons. There are also several keyboard commands.

During play, the P key will pause the race at any time, Q will recentre the bike following a crash or a wild run off the track, F10 will display the names of the other five drivers (a useful way to

remember them) and the Escape key will abandon the race. When this is pressed, you are asked for confirmation with a simple yes or no. This last option should only be used if you really have no hope of completing the race. The game goes into accelerated mode and a graphical representation of the track is displayed until the race is over. Another press of the Escape key will bypass this.

Replay cameras are selected using the number keys one to four and the cursor keys control replay (down), rewind (left), fast forward (right) and stop (up). Pressing the Space Bar will then return you to the race.

## VERDICT

**No Second Prize** is very fast and very smooth. The polygon graphics give a good feel and provides an ideal compromise between graphics and gameplay. Let's face it, when you're concentrating on the game, there's no time to admire the view!

Movement is realistic and the sounds of motorbikes roaring behind you as you overtake is excellent.

The background effects, however, are somewhat sparse, but this is to allow for faster graphics and smoother screen handling.

Overall this is a good quality simulation which is bound to keep you playing for quite some time to come.

# THE DRIVERS

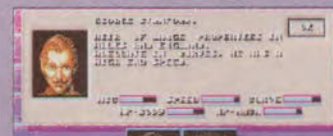
*This is how the drivers shape up. Note their different abilities*



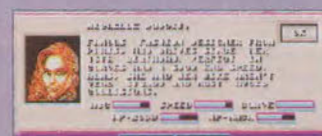
**Rainer Kelpin** – a good all rounder, but not outstanding in any particular area.



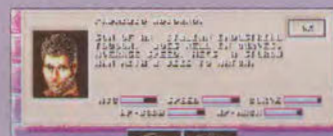
**Ray Turner** – great in a straight line but forget the curves! Very strong, though.



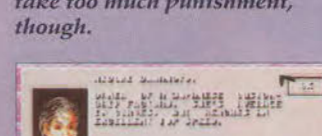
**George Stanford** – not the fastest off the line but has a high top speed and corners well.



**Michelle Dubois** – average acceleration but a fair turn of speed and very good in the curves department. She can't take too much punishment, though.



**Fabrizio Adorno** – average speed, good on the curves and can take a few knocks.



**Miyuki Yamamoto** – average all round except for a fair turn of speed.

## STEP BY STEP



**1** From the main menu, select **Start Season** from the options. This will take you to the driver selection screen.



**3** You have no choice in which track you use, as the competition is now under way.



**2** Choose your driver and then give him (or her) a nickname. You can leave it as it is if you wish.



**4** Set the sensitivity of the mouse and choose whether to have an automatic or manual gearbox. You are now ready to



**5** Under starters' orders, and away you go!



**7** Too much damage to you or the bike results in a total wipeout. Never mind, there's always the next race.



**6** In first place, but the rookies are there and getting in the way. Just one of the hazards of this kind of race.



**8** At the end of each race, a full set of statistics is available to you so you can see exactly how you're doing.



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Armed with sheep-skin coat and flat cap, Mark Patterson checks out life at the bottom of the premier league

# PREMIER MANAGER



All the status and action screens are accessed from this one.

Being a football manager involves more than dishing out the coloured bibs at training sessions – there's a bank account to manage, a team to organise and irate board members to deal with.

For my stint as a top-flight manager I took over the running of the hugely successful Witton Albion. To begin with my team consisted of a few part-timers, some rapidly approaching retirement, a couple of thousand pounds and a ground rated as highly unsafe by the Taylor report. From this the aim was to build a squad capable of earning promotion from the Vauxhall Conference to League football and making the club some money.

Players can be trained by your head coach and any specialist you hire. The drawback is that the harder a player works mid-week, the more likely he is to be injured during a match. If your squad does start picking up injuries, you can always look to strengthen it with new blood from the transfer market. Every player in the game has a set of ratings for handling, tackling, passing and shooting, which range from poor to

ultimate. Naturally, the better his ability the more you have to pay. The bank is prepared to loan your club some cash, but to begin with it's only enough to pick up a third division has-been.

## TRICKS AND TACTICS

Once your team is assembled you need to decide how they're going to play. Team tactics are limited to attacking, defending and passing games and just about every formation permutation possible. Your scouts always supply you with a report on the tactics and strength of the next team you're up against, which is useful for deciding what type of game to play.

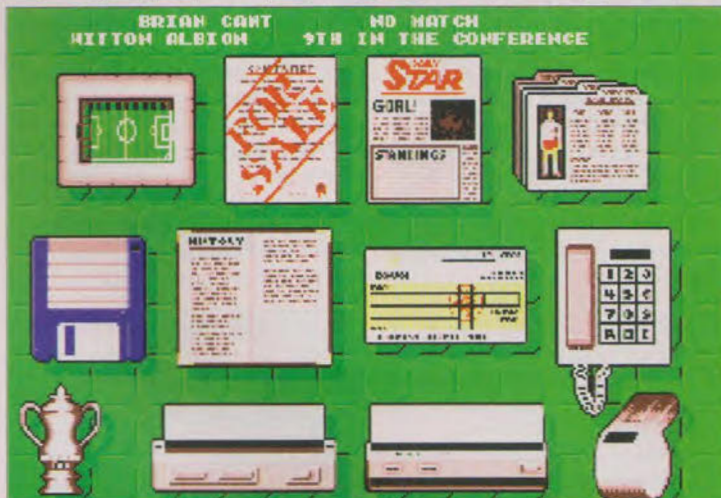
When a match starts a screen appears showing which way the play is going, score and scorers and a window containing highlights of the action. The action window is a little pointless; all it seems to show are some rough graphics of a couple of men kicking a ball around and nothing of real interest. Fortunately there's a speed

control which lets you cut out the boring bits and get the match over and done with in a mere 20 seconds.

If your team does particularly well in a season it starts attracting attention from other clubs. This means you can expect offers for your players when their contracts expire and,

*It's match day and you can view all the results in the other four divisions, plus cup games.*

*The fighting men of Witton Albion are shown on this screen. They're a long way from premier league stardom.*



best of all, job offers from better clubs. Better sponsorship offers also come, including one from *ST Review*!

## SICK AS A PARROT

Apart from league games, *Premier Manager* also includes all the major cups. Like real life, having a good run of cup games increases gate money, but the extra games also put your players under strain, which is reflected by the decrease in their stamina rating. As it falls the players slow down and become prone to injuries.

In line with modern football the game also includes the Taylor report on ground safety. Initially your club's ground rates one out of five, with minimal facilities and stands (which have been banned from premier football).

Each time your team is promoted you're required to keep in line with the report and build a new improvement such as better seating facilities and floodlights. This costs lots of money, so players often have to be sold to help meet the expenses.

*Premier Manager* is fun for a while, but it offers nothing that hasn't been seen before. If you already have a football management game, it's not worth looking at this; if you haven't, this makes a nice change from the usual crop of RPGs and sims.

Detailed features  
Covers plenty of areas

## PROS AND CONS

Boring displays  
Offers nothing new

*"Detailed and absorbing, but nothing new on offer"*

NAME: PREMIER  
MANAGER  
COMPANY: GREMLIN  
CONTACT: 0742 753423

PRICE: £24.99  
RELEASE DATE: OUT NOW  
MIN MEMORY: 1MB

GRAPHICS ○○○○○○  
SOUND ○○○○○○  
VALUE FOR MONEY ○○○○○○  
PLAYABILITY ○○○○○○

OVERALL **79%**

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| TEAM SELECTION |       |      |     |     |    |     |      |       |         |        |     |        |          |          |
|----------------|-------|------|-----|-----|----|-----|------|-------|---------|--------|-----|--------|----------|----------|
| NO             | NAME  | POS  | AGE | HT  | WT | VAL | FORM | GOALS | ASSISTS | YELLOW | RED | STATUS | CONTRACT | TRANSFER |
| 1              | BLAND | GOAL | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 2              | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 3              | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 4              | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 5              | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 6              | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 7              | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 8              | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 9              | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 10             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 11             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 12             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 13             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 14             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 15             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 16             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 17             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 18             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 19             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 20             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 21             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 22             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 23             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 24             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 25             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 26             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 27             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 28             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 29             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 30             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 31             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 32             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 33             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 34             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 35             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 36             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 37             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 38             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 39             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 40             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 41             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 42             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 43             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 44             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 45             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 46             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 47             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 48             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 49             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |
| 50             | BLAND | DEF  | 24  | 180 | 75 | 100 | 100  | 0     | 0       | 0      | 0   | 1      | 1        | 1        |



One game on and  
one letter less, but  
has Coktel Vision  
got it right this time?

Tony Dillon finds  
the answers

It doesn't seem that long since *Gobliins* came out. Well, that's probably because it isn't - less than six months, in fact. Here, with no expense spared, comes *Gobliins 2*, another in Coktel Vision's endless line of graphic adventure/puzzle games. You probably remember that *Gobliins* was an amusing (first time around), simple (obvious) puzzler that saw three of the little creatures, each with different abilities, working their way through screens using the time-honoured point-and-click system. You point at something, you click, and the currently selected character will walk to it and then do something with it.

Due to the nature of the system, you can't actually choose what the chap does, so that makes puzzles even easier. So



we come to the second attempt. This time there are only two of the pointy-eared folk, and rather than different capabilities, they've been gifted with different characters. One is a loud, brash prankster who would rather drink a bottle of wine than give it to someone dying of thirst. The other is a sensible little lad who always seems to get it right.

The plot is a tale of the rescue of an idiot prince, and the game features more of the



Who would have thought that a frog could be so scary?

'keep clicking on everything until something happens' puzzles that made the first one just about playable.

### BIGGER BY FAR

This time, however, things are bigger. The puzzles have been made far more intricate and are now scattered across up to five screens, rather than the single screens of the original. There's more to them too, if only slightly. The two characters have to work in

tandem a lot of the time, with one carrying out one action whilst the other completes the job simultaneously, calling for a lot more timing. The humour has been improved too. The intro sequence is a delight to watch, as the story is told by the wizard Tazaar, who stops briefly to attempt to squash an irritating fly. There is stacks of sprite animation too, with every action resulting in something designed to raise a smile, at



The sleeping giant won't let you past until you've fed him. In your frustration, you decide to throttle the chicken.

The film was a box  
office smash, but  
how will the game  
fare? Steve Keen  
loads up and  
takes aim...

Ocean's licensing machine has been hard at it again working on its latest cinematic game tie-in. The latest acquisition, *Lethal Weapon*, has been dispatched from the corporate mould somewhat late - it follows not so much on the film's heels as in its by now long-since-gone dust! Still, determined to put out yet another platform shoot-em-up, the company is not deterred in the slightest.

### MISSED OPPORTUNITIES

If you managed to miss the film you were probably either circumnavigating the globe or struck temporarily deaf, dumb and blind during its 'tour' of the UK's cinemas. Just in case you didn't get to see it, though, here's roughly what happens. Riggs and the luckless Murtaugh have been demoted to uniform wearing



plods as a reprimand for their all-too-frequent reckless antics in the line of duty. Whilst in the doghouse the two hear of massive corruption within the force and illicit arms dealing of previously confiscated weapons.

However, before their sergeant will take them seriously again they have to prove their worth in the front line in order to regain their commander's faith in their undercover abilities.



Choices choices. This is the screen that lets you choose not only your mission but your race as well.

Now, platform shoot 'em ups are hardly the most original or awe-inspiring games around and an Ocean film license is about as common as last-minute British Rail cancellations.

However, not being able to make up its minds as to which character to use in the game, Ocean has decided to make this one a little different, and has included both of them. Each can be controlled and, as you would imagine,

both have their own attributes. Riggs is the lean martial arts fighting machine, and although he has a gun he's most lethal when trading blows with his assailants. Murtaugh is the opposite and his weapons carry much more fire power and kick.

By returning to the station and jumping into the locker room you can change between the two for the different missions and extend your chances of success.



Here Murtaugh comes across a couple of 'undesirables' and they're not asking for his autograph.

# LETHAL WEAPON





*The first horribly obscure puzzle. Water has to be poured onto the flowers to make them grow. Then give them to the Notable to get his sausage.*

least. Throw a stone at a chimney, and the chimney sidesteps. Try to steal the sausage while the owner isn't looking and you're likely to be thrown across the screen, accompanied by the manic giggling of the other goblin.

#### WHAT WENT WRONG?

Admittedly it sounds far better than the original, so why



the low score? The puzzles are so illogical and haphazard that you wonder whether this game has ever been playtested. In the opening puzzle, you have to try to get a sausage from its owner. What do you do? Ask? Sneak it past him? No, you steal a milk bottle, fill it with water, water some flowers, when they grow you pick one, then give it to the owner, who promptly falls asleep. I would never have guessed that had there not been the Joker option, which gives you a limited amount of clues. Frustration soon sets in as you struggle to solve problems. Answers that seem logical fail to work, over and over again. To get past the dog, you have to poke him in

the face with a bratwurst hidden in a pothole. To get a key from a cuckoo clock, you have to throw a stone at it when the door opens. These are not puzzles designed to tax you.

As usual, the AI is ever so slightly wrong. Clicking on a step next to a character results in them walking all over the screen to get to it. The length of time that it takes to call up the inventory means that a lot of simultaneous puzzles take an inordinate length of time to perform. Add to that the loading times between screens and the game is confirmed as tosh. Perhaps *Goblins 3* will be better.

Excellent and amusing animation  
Good use of samples

#### PROS AND CONS

Illogical puzzles  
Appalling loading times  
Frustrating gameplay

*"A sad puzzler with no entertainment value after the first 10 minutes of play"*

NAME: GOBLINS 2  
COMPANY: D.I.  
CONTACT: 0276 684959

PRICE: £29.99  
RELEASE DATE: OUT NOW  
MIN MEMORY: 0.5 MB

GRAPHICS: ★★★★★  
SOUND: ★★★★★  
LASTABILITY: ★★★★★  
PLAYABILITY: ★★★★★

OVERALL **57%**

# POON

#### WE'RE ON A MISSION

There are four missions, each containing three levels spread over the subway, a factory, a dockside and the last being classified. The first three can be attempted in any order, but it's only when you've completed these that you'll be let onto the last stage. Each character has a limited amount of ammunition so it has to be used sparingly.

However good Riggs is at fighting he won't last long

when squaring up to a razor-toothed thug with an Uzi tucked under his armpit!

#### STICKING WITH TRADITION

With the traditional formula of platform japey you should be able to figure out the gameplay for yourself. You simply need to find extra bullets, hidden pick-ups and switches that open doors and lifts, grab magnifying glasses that represent evidence, shoot bad guys and get to the exit.

#### MUCH OF A MUCHNESS

Most of the backgrounds are undefined and look very much the same. The small unanimated sprites just jump on and off the screen and only the natural hazards of the sce-

narios give you anything to look at.

There are some nice touches: the gushing water pipes that knock you off ledges are well drawn, but they're not exactly an innovation.

Screen scrolling is appalling and so jerky that when you walk to the edge of a screen it only shuffles on about an inch before suddenly flipping across, leaving you stranded in the middle, often under torrential fire.

*Lethal Weapon* is a thoroughly uninspired game with few thrills and little class, sadly unlike the film.

It's on a floppy disk that you can write over when you've finished with it!

#### PROS AND CONS

Terribly unoriginal, boringly slow, stagnant game-play  
Appalling scrolling and sound to make you wish you were deaf!

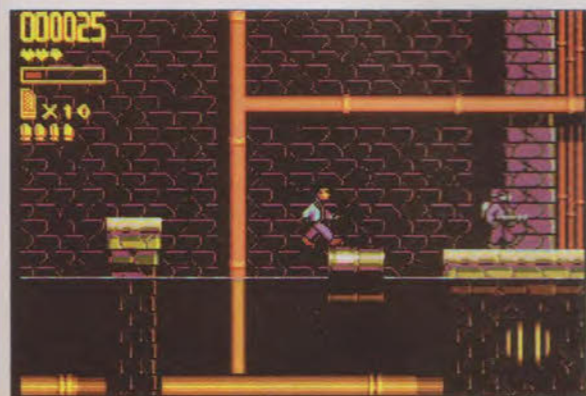
*"A missed opportunity to cash in on a successful film. A pity"*

NAME: LETHAL WEAPON  
COMPANY: OCEAN  
CONTACT: 061 832 6633

PRICE: £25.99  
RELEASE DATE: OUT NOW  
MIN MEMORY: 1 MB

GRAPHICS: ★★★★★  
SOUND: ★★★★★  
VALUE FOR MONEY: ★★★★★  
PLAYABILITY: ★★★★★

OVERALL **65%**



*More rocket launchers than you'd find in a Colombian drug baron's broom cupboard. Jump for it!*



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All you have to do to win one of these novel Cheetah joysticks is to answer a few easy questions. There are five of each type to be won, including the console-style Bolistick and the newest addition to the range, the Argostick, available as a normal stick or microswitched if you prefer.

Prices are £9.99 for the Bolistick, £12.99 for the Characteristick range, including the Argo, and £14.99 for the microswitched Argo. They should all be available from your local dealer.



*The Alien (Eddie to his friends), from Alien 3.*



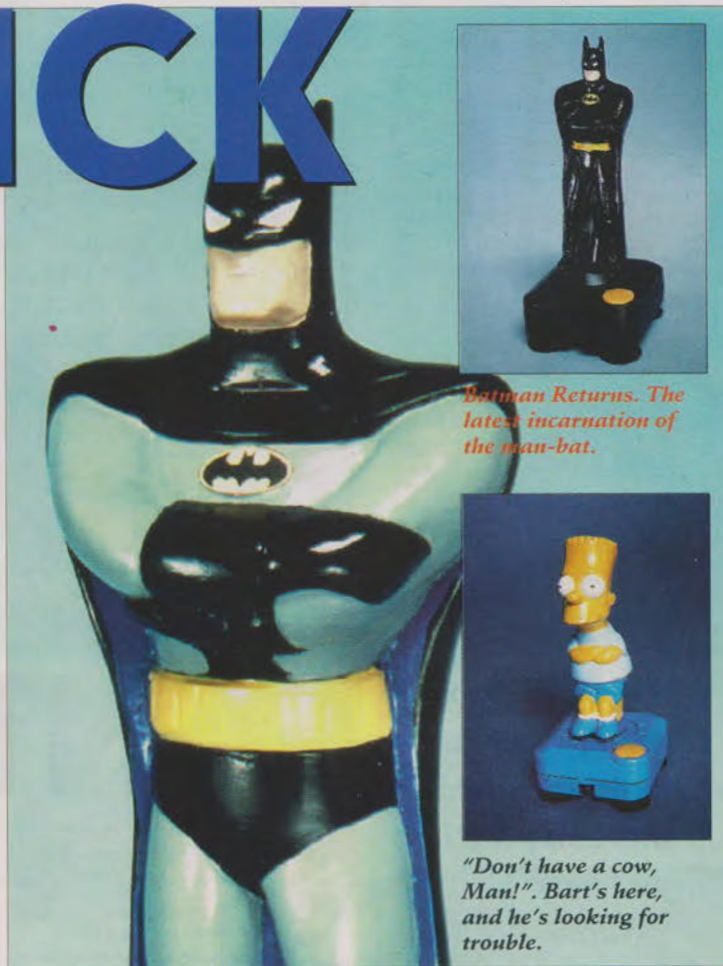
*The Terminator endoskeleton is reproduced for this Characteristick.*



*Batman Returns. The latest incarnation of the man-bat.*



*"Don't have a cow, Man!". Bart's here, and he's looking for trouble.*



*The original (and some say, still the best) Batman.*



*The Bolistick brings the console feel to the ST.*



*This Argostick is available with or without microswitches.*



*The Characteristicks range from Cheetah.*

## HOW TO ENTER

To win a fabulous joystick, just answer the questions below.

1. Who played the part of Batman in the films **Batman** and **Batman Returns**?

2. Which actor is the Terminator?

3. Who played the lead in all three **Alien** films?

Write your answers on a postcard, or the back of a sealed envelope, and send it to: **A Stick in Time Competition, Atari ST Review, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU** to reach us by 14th February 1993. Don't forget to include your name and address.

## RULES

The competition is open to all readers of **Atari ST Review**, except for employees and relatives of EMAP Images Ltd or Cheetah International Ltd. Prizes will be awarded to the senders of the first correct entries pulled out of the hat after the closing date. There is no cash alternative to the prizes offered. The editor's decision is final and no correspondence will be entered into.



If you're into strategy games, check out Wayne Legg's review of UBI Soft's latest compilation...



If confrontation, combat and colonisation are the elements you look for in a computer game, you should take a look at **Strategy Masters** – UBI Soft's latest release – as it contains all this and more.

**Strategy Masters** is a compilation of five classic strategic computer games – **Populous**, **Deuteros**, **Spirit of Excalibur**, **Hunter** and **Chess Player 2150**, all of which received wide critical acclaim when they were originally released.

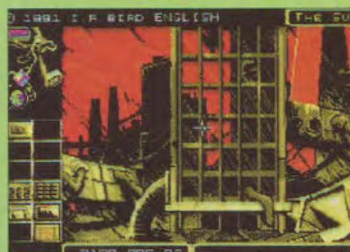
**Populous** is probably the compilation's best known game, as it received massive amounts of coverage because of its originality, size and tactical content. You take the mantle of a divine being, who derives his power from his followers. The more the more there are the more power you have to wield.

# STRATEGY MAS

With power comes jealousy – and you have an omnipotent rival who has his own group of followers. This planet isn't big enough for the both of you, so you must use your divine powers, which include land shaping and the ability to cause earthquakes, volcanoes and flood, to help your followers crush the opposition.

## FUTURE WARS

While **Populous** is set firmly in the stone age, **Deuteros** is a futuristic SF game of build-



Build a high-tech empire in **Deuteros**.

ing, research, development and expansion. Based on the Earth of the future, which has been devastated by war, disease and pollution, you are put in control of a small production factory and have to ensure that the human race continues to survive.

Initially this means researching technology, then assigning your newly-found knowledge to the production department, who try and create the required artifacts so that space travel becomes available.

**Deuteros** has a definite plot, which is revealed bit-by-bit as you build your empire. In my opinion this is the pick of the compilation, as when you reach the higher tech levels, the plot really starts to unfold, giving you a lot to think about in the process!

## FIGHTING SPIRIT

Its running mate is **Spirit of Excalibur**. This is basically a game of adventure and combat set in post-Arthurian Britain. The year is 539 AD, Arthur has been killed at the



One of the keys to success in **Deuteros** is developing new weapons technology to hammer your enemies with.

57 – well almost – varieties of game style can be found in this compilation.

Wayne Legg has done the testing...



UBI Soft has released a second games compilation this month. Called **Fantastic Worlds**, it's a very interesting proposition indeed. Although it consists of previous releases, the collection is centred on the fact that the games are based on very strange planets, bar one that is.

Like **Strategy Masters**, **Fantastic Worlds**' lead game is **Populous**, where you play the part of a God who aims to destroy a rival deity. However, this is supported by an interesting combination of games including **Pirates**, which is set in the Caribbean anywhere between the 16th and 18th century.

As leader of a bunch of salty sea-dogs, you have to sail the oceans attacking wealthy ships and towns on your jour-

neys with a view to increasing your wealth and status.

As the game progresses, you have to utilise both your arcade skills for man-to-man sword fighting and tactical skills for ship-to-ship combat. Although graphically very ordinary, **Pirates** is an atmospheric, engaging game that delivers a lot of fun.

On the other hand, **Realms** is a serious game of world domination. As King of a group of men, you must attempt to dominate the world through



You'd better have your sword handy in case you come up against a tough opponent.

all the means that you have at your disposal.

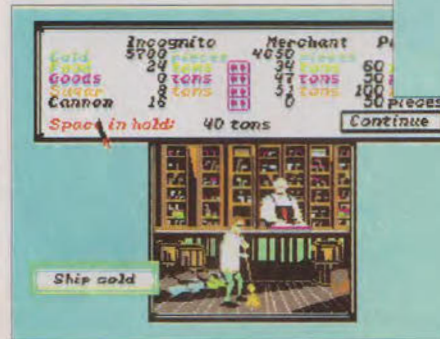
It is not just a matter of raising an army and going off to war. Towns need to be governed, citizens require feeding, taxes need to be set and building needs to be done. Although similar to **Powermonger**, **Realms** is a nice variation on a theme, even if it is somewhat limited in scope.

Next comes **Wonderland**, the Magnetic Scrolls adventure set in the bizarre world created by Lewis Carroll.

Naturally, you play the part of Alice, and you have to explore

this weird world in order to obtain the information that solves the innumerable puzzles and conundrums – only then can you escape.

**Wonderland** became famous because Magnetic Scrolls created a Windows-style operating environment and thus developed a whole new gaming style. A fresh look at the game proves that it has lost none of its originality and



TOP: Raiding other ships can prove dangerous

LEFT: You need to keep your hold topped up with ammunition and food.



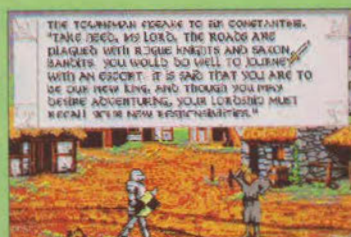
# TERS

battle of Camlann, his realm has all but disintegrated into chaos. As Lord Constantine, the Crown Regent, you must attempt to re-unite the kingdom and strive towards a peaceful Britain.

Basically, you must find Arthur's sword Excalibur, The Holy Grail, Helye's book and various herbs in order to take on the forces of evil. Of course, you will have to fight in order to obtain these items; combat, which forms a large.

## FINAL FIGHT

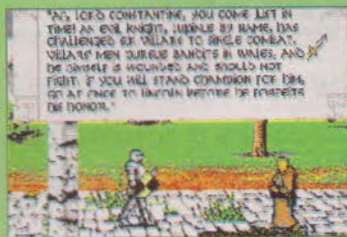
Graphically, *Spirit of Excalibur* is far superior to any of the



*Excalibur mixes action with adventure.*

games contained within this compilation. It has enough depth and challenge to keep any tactician interested for a long, long time. All in all an enjoyable game.

The final two games in this compilation are the weak links of the package. *Hunter* an unoriginal and shallow blow-'em-up that's ultimately boring, while *Chess Player 2150* is nothing more than a run-of-the-mill, chess simula-



*Mordred's sons are also out to claim the throne.*

tor with no hidden extras to add variety.

*Strategy Masters* will provide hours of mind-stretching entertainment for anyone who likes to plan ahead and make strategic decisions.

A good, quality strategic challenge  
Will take many hours to complete

## PROS AND CONS

Two of the games included in the bundle – *Hunter* and *Chess Player 2150* – have aged quite badly and will be only of limited interest



*Dueteros also requires you to manage your colonies resources.*



*Most people aren't very helpful towards Constantine.*

# RLDS

that it is still one of the most stylish adventures available today.

The final game is *Mega-Lo-Mania*, where you choose to be one of four would-be Gods, each seeking to gain total supremacy over a planet. As in *Populous* and *Realms*, each God controls a race of people, but here your followers slowly evolve their combat capabilities from cave people with stones through to present day troops with nuclear weaponry and beyond.

You win the game by taking control of all of the 28 islands situated around the planets surface — but be warned, treat this as a long term objective because *Mega-Lo-Mania* contains many hundreds of hours of playing time. To do well, your combat tactics, economic policies and weapons research have to be applied with resourcefulness, as it is easy to over-stretch your resources and become an easy target for a hostile nation.

What makes *Fantastic Worlds* a viable proposition is the variety of different gaming genres contained within one compilation. If you get bored with empire building in *Populous*, you can adventure



in *Wonderland* or sail the seas and sink ships in *Pirates*.

Overall, all of these games are graphically average, but with *Fantastic Worlds* UBI Soft has proved that if a game is well-designed and contains enough challenges to keep a player busy, it will stand the test of time despite the way it appears on screen.

A good selection of quality games  
Many hours of game-play

## PROS AND CONS

The graphics are ordinary  
It's easy to lose heart with some of the games and give up

*Populous* was the first 'god game' to appear on any computer, spawning many clones, one of which, *Mega-Lo-Mania*, is also included in this compilation.

"Excellent value, an interesting mixture of styles"

NAME: FANTASTIC WORLDS  
COMPANY: UBI SOFT  
CONTACT: 081 343 9055

PRICE: £35.99  
RELEASE DATE: OUT NOW  
MIN MEMORY: 1 MB  
(WONDERLAND ONLY)

GRAPHICS: ★★★★★  
SOUND: ★★★★★  
VALUE FOR MONEY: ★★★★★

OVERALL 79%



The more people you have in *Populous* the more acts of God you can unleash on your rival deity's folk.



At this time of the year, there are always more than the usual amount of good deals to be had. Alan Dykes takes a journey to the bargain basement...

## HUDSON HAWK

HIT SQUAD • £7.99 • 061 832 6633

**IN BRIEF:** *Hudson Hawk*, the film, was a cinematic disaster. Directed by, and starring Bruce Willis, it was panned by critics and audiences. From the game's point of view this was a pity as Ocean managed to produce a very original and enjoyable platform jaunt which, because of the movie's reputation, never sold well. The storyline involves international thief Hudson breaking into an auction house, the Vatican and a castle to relieve them of their contents. The objects of his attention are Leonardo Da Vinci's Sforza horse sculpture, the Codex, a book of his sketches and a mirrored crystal. When combined they form a device which will help Hudson thwart the plans of a totally evil crook.

**ST REVIEW COMMENT:** "This is a fun title. The backgrounds are well drawn and the sprites are neat and well animated. Hudson is armed with bouncing balls which will stun most adversaries, but he also has to watch out for laser beams, electrified floor panels and a ridiculously savage dachshund. Control of the main sprite is a little frustrating at times because he skids and slips a lot, making some jumps very awkward. Nevertheless, *Hudson Hawk* remains a humorous and worthwhile title. If you didn't consider it first time around, you should at this price.

★★★★



# VFM

## TRIVIAL PURSUIT

HIT SQUAD • £7.99 • 061 832 6633

**IN BRIEF:** *Trivial Pursuit*, the board game, took the world by storm a few years ago and like After Eight mints you can guarantee its appearance at dinner parties. Now the ST version, originally released by Domark, is out at one third of the board game price. *Trivial Pursuit* is a quiz for up to six people, or more if you play in teams. The questions are split into six categories, geography, history, sport and leisure, science and art and literature. Each subject is represented by a colour and as you move around the board (by throwing dice) you have to answer questions correctly to progress.

**ST REVIEW COMMENT:** "*Trivial Pursuit* is ideal entertainment for Sunday afternoons or boring evenings. Not only is it challenging and great fun, it's educational too. There are more than enough questions for a few games but when they do start recurring there are eight additional databases of questions which can be loaded. The game is hosted by a character called TP who stumbles about asking the questions and throwing darts to identify what number you've 'rolled'. TP does get on your nerves, so luckily he can be switched off. Overall this is an excellent recreation of an excellent board game. If you're into general knowledge or quizzes this is a must.

★★★★



TP makes a nuisance of himself, asking difficult questions and smiling a lot. Luckily you can switch him off.

The Trivial Pursuit board has six topics represented by different coloured squares and diamonds. The centre circle allows you to choose any a question on any subject.





## BIG NOSE

**CODEMASTERS • £7.99 • 0926 814132**

**IN BRIEF:** Big Nose is a cave-man who is having a few problems with the food chain. Apparently Thanksgiving isn't just celebrated by our American brothers, it was also a very important date in the prehistoric calendar – according to Codemasters at least. So Big Nose has to catch the traditional Pterodactyl for the Thanksgiving roast or Mrs. Nose will have his konk off.

**ST REVIEW COMMENT:** “*Big Nose* is not a good game. It is simple in the extreme while the graphics look as though they’ve come from a dodgy Hungarian cartoon. That said, the game is firmly aimed at a

younger age group where the above combination will probably work a treat. Each level has lots of colourful snakes and lizards, all of which are easily dispatched by a single, solid knock on the head. The end of each stage presents a much more daunting prospect though. Here’s where the biggest, angriest rock-spitting dinosaurs live. Bonus bones and rock piles lie all over the place to increase your score or firepower, while one bone in particular will transport you to the beginning of the next level. A good, colourful game for the very young, but anyone with a taste for fast-paced excitement, no matter what their age, should keep well away.”

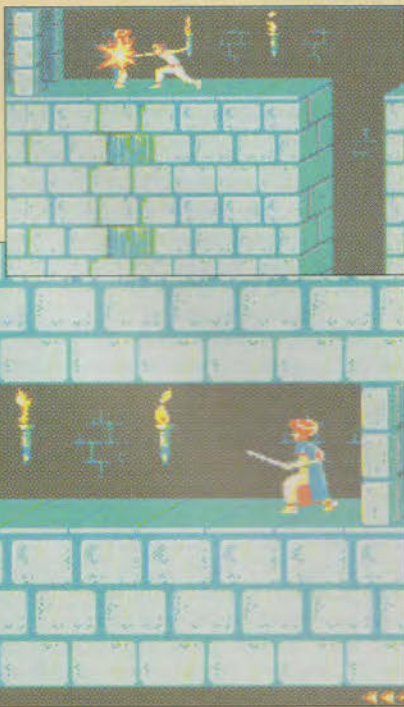


## PRINCE OF PERSIA

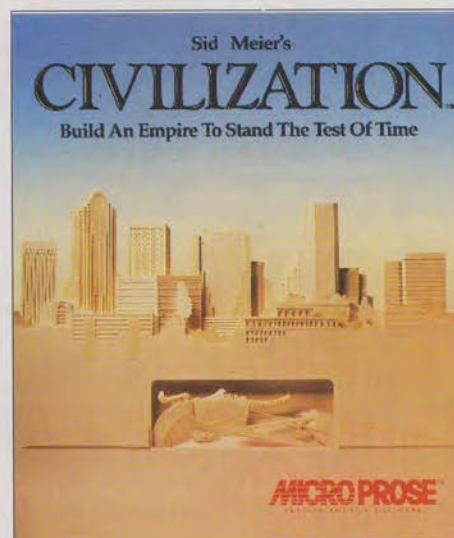
**HIT SQUAD • £7.99 • 061 832 6633**

**IN BRIEF:** The original and still the best! *Prince of Persia* is best known for its incredible animation. The sprites make it seem as though you are watching a movie instead of a computer game, and although it does seem slow it still makes for an unbeatable playing experience. We’ve all heard the plot a million times over in films, books and cartoons – the Sultan is away at war and a usurper has arisen. All he needs is the Sultan’s daughter’s hand in marriage to seal his hold on the kingdom. But the fair damsel refuses, mainly because she knows she is bound to be saved by her young love. If you want to become Prince of Persia you must brave many dangers to save her.

**ST REVIEW COMMENT:** “The heroic plot is stylishly borne out by heroic gameplay. Sprite movement is itself a work of art and once you are used to controlling the hero he’ll run, jump, crouch and swordfight like a pro. Another simple but brilliant aspect of the game is the fact that you are given one hour to complete each level. You can keep dying and then coming back for more until you succeed, or the clock runs down. *Prince Of Persia* is a classic which you’ll keep coming back to time after time. An essential part of any collection, especially at this price.”



## Exactly how many awards will it take before you own a copy of Sid Meier's Civilization?



**Winner!**

*Best Consumer Product 1991*

**Winner!**

*Best Strategy Program 1991*

**Winner!**

*Best Entertainment Program 1991*

**Winner!**

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## SUPER ALL STARS

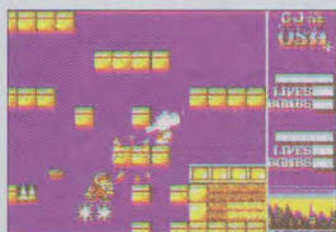
**CODEMASTERS • £24.99 • 0926 814132**

**IN BRIEF:** If you've ever been a fan of Codemasters characters then this compilation is a must. It contains two of the best known, CJ Elephant and Dizzy, who are joined by three of their newest, Steg The Slug, Captain Dynamo and Robin Hood. **CJ In the USA** has the young elephant going to America to rescue his family who have been kidnapped by a band of animal smugglers. It's basically a platform game with lots of leaping, baddie bashing and rescuing to be done. **Magicland Dizzy** has been around for a while now as a budget release but makes a welcome addition to this compilation. It's a classic Dizzy puzzler which sees you rescuing the inhabitants of Dizzy's world from another dimension.

In **Steg The Slug**, reviewed in issue five, you help the slimy creature feed his family on maggots by trapping them in bubbles and taking them to the hungry mouths in his nest. **Captain Dynamo** couldn't be more different. He's an octogenarian superhero who is out to recover a little old lady's diamonds from an evil professor who has smuggled them to the moon. Last but not least is **Robin Hood Legend Quest**, a conversion of an American Nintendo game which follows the antics of Sherwood Forest's finest as he sets out to rescue the lovely Maid Marion.

**ST REVIEW COMMENT:** "Super All Stars, like Big Nose, might seem like a package aimed at the very young, with its persistent rescue theme and childish characters. Don't be fooled though - unless you're a hardened shoot-'em-up addict there's enough here to keep you busy for a long time. Dizzy is, as usual, addictive, **Captain Dynamo** and **Robin Hood** are both graphically impressive and eminently playable while **Steg** is extremely unusual but good fun. Control can be a touch sluggish on all of these games, but that apart **Super All Stars** is well worth considering."

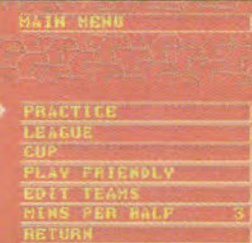
★★★★



## GAZZA'S SUPER SOCCER

**TOUCHDOWN • £9.99 • 0268 541126**

**IN BRIEF:** This is another soccer game in which one or two players grapple with their joysticks to defeat each other or the computer, although this one has a few differences. The match starts with a horizontal view of the pitch, one team on the left-hand side and the other on the right. However, once the action moves to a penalty area the perspective changes to a vertical view with you playing up towards the goal or down to defend. As you can imagine, the screen suddenly flipping 90 degrees can be a trifle confusing at times. Options include English, Scottish, French or Italian sides to play against. Further options allow you to choose between eight team strips, different team formation, tweak your team's skills or play a practice game against an easy side.



**ST REVIEW COMMENT:** "The best thing about **Gazza's Super Soccer** is watching the advertisements at the side of the pitch (which doesn't say much for the game). The programmers have come up with some interesting variations on advertisers' names.

As for the action, the game should perhaps have been entitled **Gazza's Flea Circus Football** as the graphics are so small. The only 'Super' thing about it is that it loads fast enough to have a quick laugh and then go onto something more serious. The players are slow, move with imprecision and are difficult to make out. Even at this price you should save your money and buy **Unbeatable Soccer** or **Kick Off 2**."

★



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\*Does not include 1st Word

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# PD ZONE

## SMASH HIT

TUMBLEVANE PDL • DISK NO:  
GM.082 • £1.50 • MEMORY: 0.5MB •  
SHAREWARE

ATARI ST  
ESSENTIAL BUY

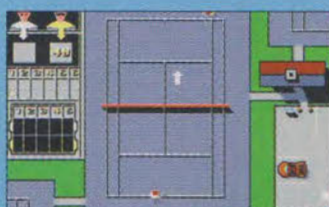
**IN BRIEF:** *Smash Hit*, as the name suggests, is an out-and-out tennis sim. The controls are simple and the aim is mindless – just bash the ball as hard as possible at your opponent and hope for the best. Reality has been put on the back burner with the emphasis firmly on action; it's the sort of game you can pick up and play instantly, which can't be a bad thing.

The graphics are small but nicely detailed – not that you have much time to notice them – and there's a wonderful 'thwack!' noise each time the ball hits the racket. Other sound effects are fairly tame by comparison and thankfully we've been spared the digitised 'grunts'. The game runs at 60Hz which may be a problem for TV owners, but this fills up the screen and adds nicely to the arcade atmosphere.

**ST REVIEW COMMENT:** "In terms of realism, *Smash Hit* is certainly no *Pro Tennis Tour 2*, but it's great fun to play and you don't need six months' practice to hit the ball. *Kick Off* with rackets!"



*Smash Hit* is tennis as you've never played it before.



*Tiny graphics are completely forgiven thanks to dynamite gameplay.*

## PROJECT GEOFRAN

SOLENT SOFTWARE • DISK NO: GAME.75 • £2.00 • MEMORY:  
0.5MB • SHAREWARE

**IN BRIEF:** The aim of this STOS shoot-'em-up is to fly your spaceship, Geofran, around a network of underground caverns, destroying the nasties and increasing your wealth as you go.

The graphics are passable and the main highlight of the game is the sound samples, which have been taken from Apollo space missions. There's nothing startling on offer – you're more likely to trash your joystick through frustration than addiction! Unfortunately, the opportunity to redeem some of the playability through the gambling sections has been wasted on questions that are ridiculously difficult.

**ST REVIEW COMMENT:**

"*Geofran* isn't the best shoot-'em-up around, but the gambling scenes and samples make it more original than the vast majority of these games. Give it a go by all means, but don't expect miracles."



*Although the graphics and sound are reasonable, Geofran lacks any lasting interest.*



*Even if you manage to make it to one of the gambling sections, the questions are very difficult.*



*Drachen* is mouse controlled and easy to pick up thanks to on-disk English instructions.

## DRACHEN

TUMBLEVANE PDL • DISK NO: GM.075 • £1.50 • MEMORY:  
0.5MB • PUBLIC DOMAIN

**IN BRIEF:** *Drachen* is a German game that is based around the classic board game, *Shanghai*. The idea is to remove tiles from a five-layer pile according to a set of rules, with the ultimate aim being to completely clear the table (or screen in this case). Unlike the genuine article, however, *Drachen* is a one-player game against the clock.

If you get stuck, which tends to happen quite a lot, the computer can be instructed to prompt you with a move, or you can be really sneaky and forcibly remove tiles from the table. A nice 3D effect has been employed to represent the five layers of tiles and you can choose between two (ultra-boring) colour schemes. Although the GEM menus are in German, an English set of rules are provided on the disk for those new to the concept. A two-speed demo is also included to give you a basic grasp of the game.

**ST REVIEW COMMENT:** "Forgetting the German prompts for a moment, *Drachen* is an excellent implementation of an ancient game. It's infinitely easier to set up than the real thing and ideal for those evenings when *Xenon 2* is just too much effort."



*It may lack the traditional nature of table-top Shanghai, but it's just as easy to cheat at Drachen!*

## TOWER POWER

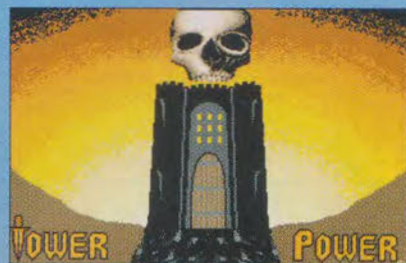
CALEDONIA PDL • DISK NO: GM.135 • £2.50 • MEMORY:  
0.5MB • FREWARE

**IN BRIEF:** The objective of this strategy cum role-play board-game is to defeat your opponent by occupying his corner of a tower. Movement around the play area is similar to chess and you start off with three fairly weak characters, each capable of moving a set number of squares. As the game progresses and you build up more gold you have the chance to increase your army by buying new pieces.

Each time a character is taken the screen switches to an arcade-style 'battle mode', at which point the two players fight for the square. The game is packed with samples, although the graphics are a little amateurish. Disk accessing is also a real pain on a half Meg machine, but this improves the more memory you have up to the optimum two Meg.

**ST REVIEW COMMENT:**

"*Tower Power* is basically *Powerplay* minus the 3D graphics. If you live, eat, sleep and breathe strategy games then give this a try, but otherwise you should approach with caution."



*Flash samples and a colourful title screen do little to enhance Tower Power.*



**NEW AGE PDL • DISK NO: BUGAM.108 • £2.95 •  
MEMORY: 0.5MB • LICENCEWARE**

The aim of this game is extremely straightforward – simply move your little green fluffball over the grid collecting bonuses before guiding it to the flashing orange exit.

Teleports which move you around the screen quickly also add to the action and very often bonuses must be sacrificed to move on to the next level. Each new screen is introduced with synthesized help speech that sounds very flash, but can be difficult to understand at times.

**ST REVIEW COMMENT:** "Square Off is a commercial quality concept hiding under PD-style graphics. Start playing and you'll find it very hard to put down! Sometimes the puzzles are a shade too easy, but all in all this is a highly enjoyable game."

The screenshot shows the game 'Squid Off' in progress. At the top, a status bar reads 'FIRE/SPACE TO QUIT'. The main play area is a 10x10 grid. The player's ship, a green squid, is at row 20, column 9. The enemy ship, a red submarine, is at row 10, column 10. The player's score is 1010, and the enemy's score is 1010. The player's level is 5, and the enemy's level is 5. The player's name is 'PRISONER'. Below the grid, a 'Lives Remaining' bar shows 4 lives. At the bottom, a character selection screen displays various symbols and the text 'FRONT OF THE GD GOTHIC ROMAN'. The right side of the screen shows the game title 'Squid Off' and the copyright information: '©COPYRIGHT 1992 ANDREW EVIL AND OAKLEY 24, ODDLEBROOK ROAD, RUGLEY, BRIDGEND, SHROPSHIRE, WU15 8NU'.

[illegible]

# TOP TEN GAMES

A rip-roaring tennis game which falls well short of being realistic. The action is fast and frantic and some crisp samples spice things up nicely. Difficulty ranges from just plain hard to 'is your name Agassi or wot?' and can be adjusted to the degree of thrashing you desire. New balls please!

With your fingers still trembling and your heart still pounding from being beaten (again!) by **Smash Hit**, you will probably feel in need of a nice relaxing game of cards, computer style. If so, you won't find much better than **Coyote Dave's Poker**. You're pitted against the wild west's best card players and, given that the game is in mono, the graphics are superb.

Take to the skies in this horizontally scrolling shoot-'em-up. The aim is to destroy the target given in the briefing and safely land your plane again. The-

The classic board game, *Shanghai*, is resurrected and given the ST treatment in *Drachen*. The pace can hardly be described as fast – although you can choose to play the game against the clock, but it's certainly fun for a while. Fortunately, the German prompts do little to detract from a solid, well-written, playable game.

Despite a clumsy front-end, **Companion** develops into a smart vertically scrolling shoot-'em-up. The graphics aren't over ambitious and everything moves very smoothly. One of the better PD blasters.

**Square Off** is a cutesy brain teaser featuring some good sound effects and average graphics. It's a good deal easier than many games of this type and a level designer adds to the appeal. What a great game.

If dice games are your idea of a good time, you could do a lot worse than checking out this little number. The

This is an odd little pinball game which takes traffic as its theme. The ball is controlled via the keyboard and prodding the mouse gives you a 'tilt'. It's certainly not up to the standards of *Pinball Dreams*, but *Traffic Jam* is about the best pinball game you're going to get in the public domain.

**B-19** is **F-16**'s little brother and fails to reach quite the same high standard. The idea of the game is to bomb buildings before your plane flies so low that it crashes into them instead. This concept has been around for at least 12 years, and unfortunately it shows! Having said that though, **B-19** is a nice implementation if you're a fan of the genre and many will enjoy it.

One silver chalice, a 3D maze and a bold adventurer – PD game coming right up! The size of the maze is adjustable and the game is controlled either via the keyboard or a panel of icons. The graphics can be a little confusing at times, but the game is fun to play all the same.



# PD ZONE

## ART TUTOR

NEW AGE PDL • DISK NO: ART.106 • £1.50 • MEMORY: 0.5MB • SHAREWARE

**IN BRIEF:** Help is finally at hand for aspiring artists who have all the talent of a five year-old with a box of Crayola. **Art Tutor**, as the title suggests, is specifically designed to help free the budding artist in you.

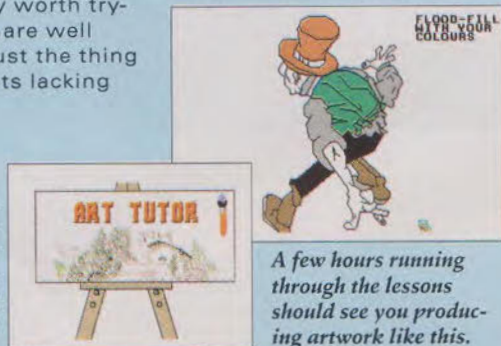
It's split into a number of mouse-driven lessons, each covering a particular style of art such as faces, fantasy, cartoons, elementary design and so on. All are aimed at the beginner and cover basic concepts such as using a grid and rough sketching.

Although the pictures themselves are excellent, the presentation of text, which is all in block capitals, and the complicated interface spoil the effect somewhat. As you work through the program it also becomes clear that most of the examples are very 'cartoony' in appearance, which could be good or bad depending on the style that you yourself are trying to develop for your work.

**ST REVIEW COMMENT:** "Despite the dodgy interface, **Art Tutor** is definitely worth trying. The lessons are well structured and just the thing for budding artists lacking inspiration."

★★★★

Berets and artistic temperaments at the ready for **Art Tutor**. It certainly beats library books!



A few hours running through the lessons should see you producing artwork like this.



A comprehensive operations screen fronts **Crack Art**, the best shareware art package available.

## CRACK ART

NEW AGE PDL • DISK NO: ART.51 • £1.50 • MEMORY: 1MB • SHAREWARE

**IN BRIEF:** Every so often a shareware program comes along that simply blows your mind. **Crack Art** is a prime example and despite the fact that it was released a while ago, there's still nothing that can hold a candle to it.

Every aspect of the program is perfect, from the shadow underneath the mouse pointer to the custom-designed file selector and built-in game. Even if you were to forget the wonderful presentation and get straight down to nitty gritty you couldn't fail to be amazed. The block manipulation features, including curve, bulge, fit-in and sphere, are out of this world, and quick too! Unfortunately the instructions are in German, but once you know that blocks are cut in the same way as Degas (by using the escape key) it's all plain sailing.

**ST REVIEW COMMENT:** "What more is there to add? **Crack Art** loads just about every picture format you throw at it and even runs on the TT!"

★★★★★

ATARIST  
ESSENTIAL BUY



Just a sample of **Crack Art's** incredible array of special effects.

Become a Picasso in your lunch hour or take some fine-art lessons from your ST, it's all here...

## PICTURE CONCEPTS

WIZARD PD • DISK NO: ART.26 • £2.25 • MEMORY: 0.5MB • FREWARE

**IN BRIEF:** It's a sad fact that most ST art packages are under-powered when it comes to special effects, and this is especially true of PD offerings. **Picture Concepts** was written for just this reason and combines a whole range of effects into one easy-to-use utility.

Both the standard Degas and NeoChrome formats are supported and all of the wizardry is available from a GEM menu bar. Just load up your picture, click the button and the image is instantly transformed.

Effects on offer include globe, which fits any picture into an ellipse, tear, which adds a ripped edge, mix, which merges two pictures and 'rectangle', which is a basic form of spatial polarisation. On-line documentation can be summoned any time and a zoom function allows you to fine tune your picture without resorting to your art package.

**ST REVIEW COMMENT:** "**Picture Concepts** is a powerful piece of software, but there's nothing here that can't be bettered by **Crack Art**. On the other hand, it beats any other PD art package for special effects."

★★★★



Spice up your artwork in dozens of ways with **Picture Concepts**.



"I told you not to dabble in magic Mickey – look what you've done to us now!"

## THE ANCIENT ART OF ASCII

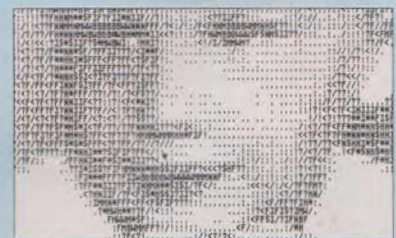
GOODMAN ENTERPRISES • DISK NO: GD1704 • £2.75 • MEMORY: 0.5MB • MONO MONITOR REQUIRED • FREWARE

**IN BRIEF:** Have you ever seen one of those 'typed pictures' (where the image is formed from letters) and wondered exactly how it was done? The artist might tell you that it takes years of practice and careful study, but forget that – let's cheat! **Ancient Art** automates the production of ASCII pictures by mapping the light and dark areas on the screen and choosing corresponding letters. The program will load and convert any Degas high-res picture and the results are really quite remarkable when viewed from a distance. Scanned art is particularly good, although pictures with a lot of fine detail tend to suffer.

The GEM-driven interface enables you to load, convert, print and save text, as well as letting you adjust which characters are used for which level of grey. These 'translation tables' can be used to create some nice effects, such as a picture made up of the letters in a person's name.

**ST REVIEW COMMENT:** "In terms of a practical application **Ancient Art** scores zero. But, the presentation is spot on and there's something magical about seeing a picture built out of nothing more than letters. Definitely £2.75 well spent."

★★★★



Yes, it is just text! The **Ancient Art** of ASCII produces remarkably good results from scanned photographs.



## QUICK RAY-TRACE

WIZARD PD • DISK NO: ART.23 • £2.25 • MEMORY: 0.5MB • PUBLIC DOMAIN



*A text editor should be your first port of call if you intend to make anything out of QRT.*

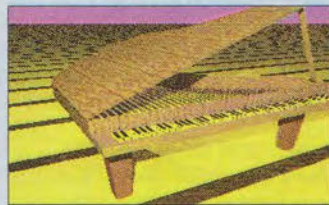
these, so a utility to cut them down to a more manageable 512 is included, together with a slideshow program.

Unfortunately there's no user interface as such and scenes have to be created from a specially written text file – a bit like writing a **BASIC** program if you like. This is hardly ideal, but to be fair the construction language is very good and a full manual together with examples are provided on disk. Speed is average for 24-bit files, but rendering takes at least two and a half hours.

**ST REVIEW COMMENT:** "I'm not quite sure what the author was thinking of when he called **QRT** 'Quick', but speed is the unfortunate penalty of superb results. There are few better ways to 'waste' your ST's time!"

\*\*\*

**IN BRIEF:** *Quick Ray-Trace*, or **QRT** for short, is a port of the Amiga package of the same name. Source files are fully compatible and the resulting pictures are in 24-bit RAW format, each containing up to 16 million colours! Obviously the ST can't display all of



*Over four hours and an incredible 182202 rays later this is the result, reduced to a mere 512 colours from the original 16-million!*

## MASTER DOODLE

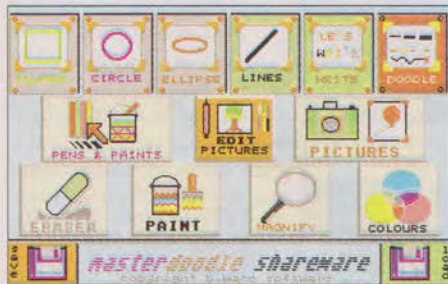
WIZARD PD • DISK NO: ART.24 • £2.25 • MEMORY: 0.5MB • SHAREWARE

**IN BRIEF:** While there seems to be a never-ending supply of PD educational packages, application software designed for kids is surprisingly thin on the ground. *Master Doodle* has been created to fill this gap in the art market, combining a large colourful interface with a solid design package. The concept is based around a unique drawing technique which uses 'markers' as opposed to the usual click-to-start-click-to-end idea. These are controlled via a panel of icons which shouldn't be too difficult for young children to grasp.

In terms of power, there's nothing startling on offer. Basic shapes plus a zoom are about all you get, but we are talking about a package for toddlers after all. One nice feature is the selection of built-in icons which includes trees and other basic

**ST REVIEW COMMENT:** "The concept is great, but *Master Doodle* tends to complicate functions that are simple enough in existing packages. Nevertheless, younger ST users may care to give it a try."

\*\*\*



*Master Doodle's colourful interface is very well designed and the icons stamps make constructing basic pictures a doddle.*

# TOP TEN ART PACKAGES

**1 CRACK ART • NEW AGE PDL • DISK NO: ART.51 • £1.50 • MEMORY: 1MB • SHAREWARE**

This is a top-flight art package with more bells and whistles than Santa's sleigh. The block functions are unmatched by any other package and the user interface is superb.

**2 EZ-ART • CALEDONIA PDL • DISK NO: AG-077 • £2.50 • MEMORY: 0.5MB • SHAREWARE**

*EZ-Art* is a beautifully designed program written in GFA BASIC. Support is included for the standard screen size and also a 'super' double-height mode which can contain up to 48 colours. A great package, ideal for children.

**3 SQUEEZE IMG • FLOPPYSHOP • DISK NO: ART.3139 • £2.50 • MEMORY: 0.5MB • SHAREWARE**

The GEM IMG format supports compression, but not all packages use it. Squeeze IMG takes these inefficiently packed files and squashes them down to a fraction of their original size. The saving you get depends on the compression used by the original file, but you can expect somewhere between five and 50 per cent!

**4 ART ST 2.31 • WIZARD PD • DISK NO: ART.18 • £2.25 • MEMORY: 0.5MB • SHAREWARE**

*Art ST* is a GEM based package with provision for a huge number of screen

buffers – up to a staggering 110 on a Mega 4! The manual included on disk is excellent and shows that shareware needn't be an excuse for poor documentation. A good solid performer that runs in all three ST resolutions.

**5 PALETTE MASTER • FLOPPYSHOP • DISK NO: ART.01C • £2.50 • MEMORY: 0.5MB • PUBLIC DOMAIN**

This was one of the first PD programs to offer more than 16 colours on-screen, and is still one of the best. *Palette Master* doesn't score very highly in the tools department, but does import Degas and NeoChrome formats, making it ideal for adding a spot of extra colour to your creations.

**6 PICTURE CONCEPTS • WIZARD PD • DISK NO: ART.26 • £2.25 • MEMORY: 0.5MB • FREWARE**

If *Crack Art* seems to be overkill, you might care to try this disk. Loosely conforming to the 'image processor' label, *Picture Concepts* is a master at pixel manipulation, although it lacks some of Crack's more advanced features. In-program editing can be accomplished via a basic zoom facility.

**7 ART TUTOR • NEW AGE PDL • DISK NO: ART.106 • £1.50 • MEMORY: 0.5MB • SHAREWARE**

The complete guide to producing top-quality art on your ST. The lessons are logical and understandable with full

diagrams to illustrate each technique. From fantasy to faces, there's something for everybody here. A very worthwhile addition to your collection if you can stand the dreadful interface.

**8 QUICK RAY-TRACE • WIZARD PD • DISK NO: ART.24 • £2.25 • MEMORY: 0.5MB • PUBLIC DOMAIN**

Some truly stunning 16-million colour pictures can be created with this Amiga port. It's hardly what you could describe as easy to use, but anybody with some basic programming experience and a knowledge of co-ordinates shouldn't have any problems.

**9 GENLOCK • CALEDONIA PDL • DISK NO: AG.077 • £2.50 • MEMORY: 0.5MB • PUBLIC DOMAIN**

Brighten up your boring desktop with a Degas picture. Just pop *Genlock* in your AUTO folder, rename your chosen image and bingo, instant relief from the mind-numbingly awful green colour given to us by Atari. One of life's little luxuries.

**10 NEOCHROME 0.5 • FLOPPYSHOP • DISK NO: ART.05 • £2.50 • MEMORY: 0.5MB • PUBLIC DOMAIN**

*NeoChrome* can still hold its own. It can't hope to compete with the likes of *Crack Art* in terms of features, but the user-friendly interface still makes it popular. Later versions are available at almost-PD prices from Goodman Enterprises and The ST Club.



## SUDDEN VIEW

CALEDONIA PDL • DISK NO: AU.194 • £2.50 • MEMORY: 0.5MB • SHAREWARE

**IN BRIEF:** On the surface *Sudden View* may appear to be 'just another text editor', but dig deeper and you'll find one of the most original pieces of software for a long time.

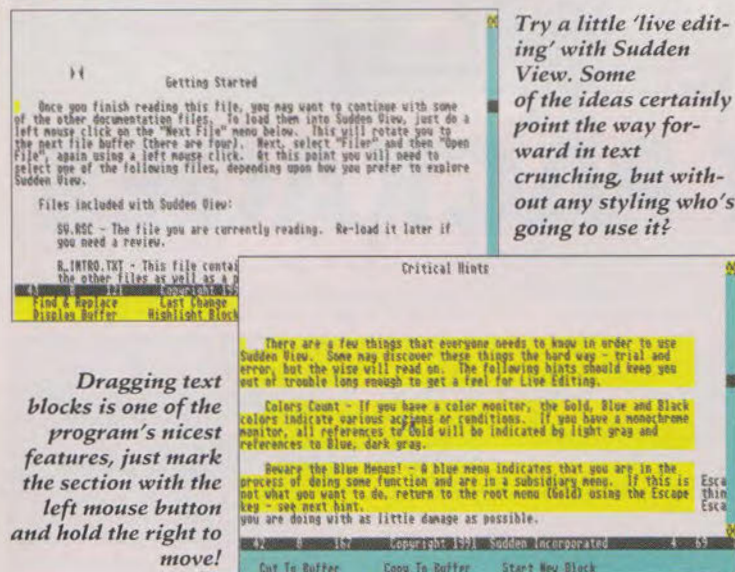
The package's main claim to fame is a technique described by the author as 'live editing'. This embraces everything from positioning the cursor to manipulating text blocks and really is something special.

For example, the cursor is automatically switched to 'insert' or 'overwrite' mode depending where you are in the text, and blocks can be picked up and dragged just as you would a desktop icon!

On a more practical level, *Sudden View* runs as a desk accessory, which is handy for DTP. Unfortunately though, it ignores GEM completely in favour of a rather clumsy custom interface - the price of progress perhaps?

**ST REVIEW COMMENT:** "*Sudden View* is inspirational in places, but remains nothing more than a text editor. There's no styling, columns or anything else that would put it in the word processor league, which is a real shame."

★★★★



Keep tabs on your disks or your shares, it's all here in the Public Domain...

## HYPER LINK DEMO - FOOD, WINES AND MENU MAKER

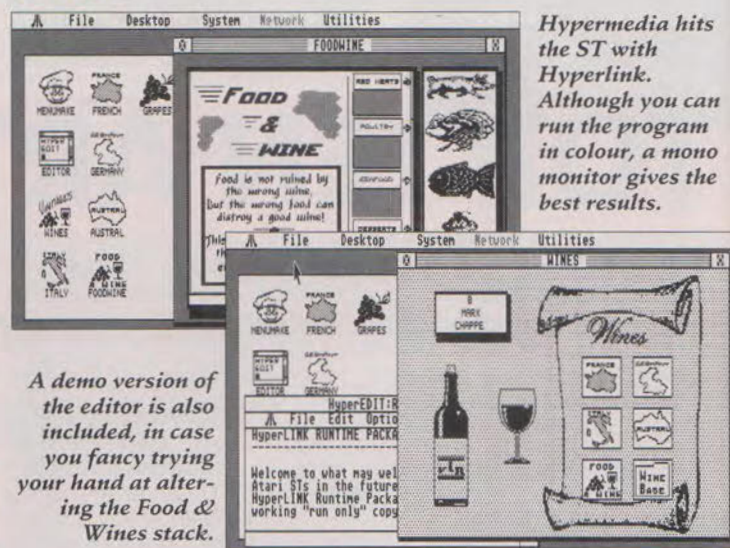
GOODMAN ENTERPRISES • DISK NO: GD1734 • £2.75 • MEMORY: 1MB • PUBLIC DOMAIN

**IN BRIEF:** There's little doubt that *HyperCard* for the Apple Macintosh is one of the most unique and original pieces of software ever designed. It takes information presentation on personal computers to new heights and nothing for any other machine has ever come close - until now!

*HyperLink* (no similarity there!) is the ST's answer to Apple's baby, and is a commercial product. The public domain version is run-only and capable of using any 'stack' created with the full package. One such stack is the imaginatively titled Food, Wines & Menus file which comes on disk and is nothing short of stunning, giving a good idea of the huge potential of *HyperLink*. One small niggle is that the program has obviously been designed for a mono monitor (on which it looks beautiful) but tends to be rather dull in colour.

**ST REVIEW COMMENT:** "In terms of education the Food, Wines & Menus stack is of little value, but as demonstration of the future of ST hypermedia, it's nothing short of astonishing. Watch out *Hypercard*!"

★★★★



## TERA DESKTOP

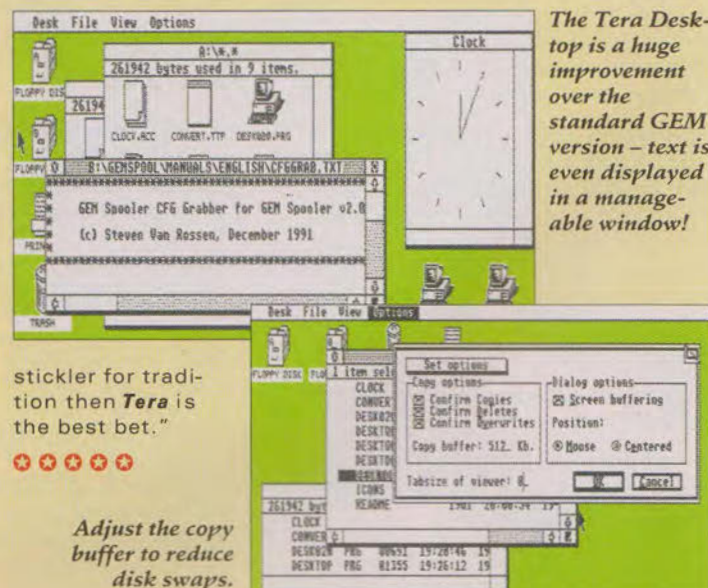
THE ST CLUB • DISK NO: UTI.205 • £1.45 • MEMORY: 0.5MB • PUBLIC DOMAIN

**IN BRIEF:** TOS 2.06 may well be the bee's knees, but if you can't scrape together the £60 to upgrade your ROMs, you needn't feel stuck with an inadequate desktop. The *Tera Desktop* has been written to mimic TOS 2 as closely as possible and manages to add a few neat tricks of its own.

In common with TOS 2, icons can be dragged out of their windows and dumped

directly onto the desktop for easy access. Although no icon editor is included, a good selection of designs are built in. All of *Tera*'s dialogue boxes are movable and can be instructed to pop-up under the mouse if required. The standard desktop's 'show' function has been beefed up to display text in a GEM window. Another aspect in *Tera*'s favour is its size, at a little over 100K it's even practical to run the whole shebang on a 520 ST!

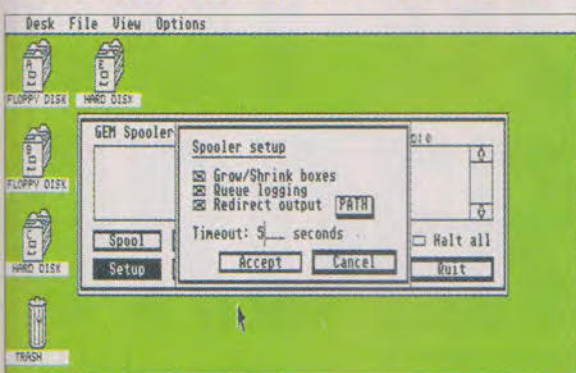
**ST REVIEW COMMENT:** "The *Tera Desktop* is the closest thing to TOS 2.06 short of buying the real ROMs. Gemini 2 may offer a few more features, but if you're a





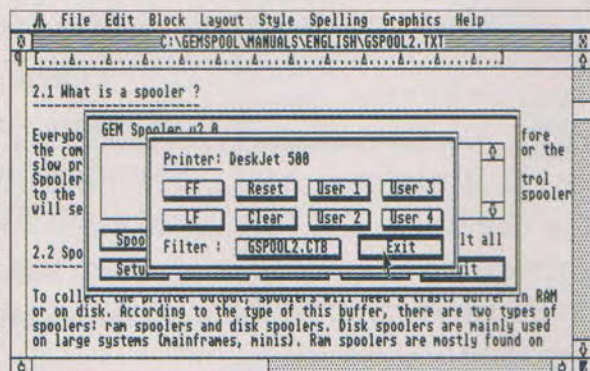
# GEM SPOOL 2

THE ST CLUB • DISK NO: UTI.206 • £1.45 • MEMORY: 0.5MB  
• HARD DISK RECOMMENDED • SHAREWARE



*GEM Spool's usefulness goes beyond saving time. If a system crash occurs, your data is kept on disk ready for printing when you reboot!*

A few printer commands can be programmed into the configuration file, but usually everything can be done with a single mouse click.



**IN BRIEF:** Second to a RAMdisk, the most useful utility you could hope to own is probably a printer spooler. They take output from any software package and feed it to your printer in the background, thus freeing up your ST for more important tasks.

**GEM Spool 2** is the latest bid for spooler supremacy and is really something special, because unlike the competition it uses no precious RAM! This seemingly impossible feat is achieved by storing the print data temporarily on a disk. It's an idea that's used extensively by Windows 3 on the PC and in addition to saving memory it also means that print jobs can be queued, deleted or sent to disk for printing at a later date! All operations are carried out from an easy-to-use desk accessory which is a doddle to install.

**ST REVIEW COMMENT:** "The best printer spooler for the ST, but watch out for incompatible software. The size of the spool files means a hard disk is more or less essential."

★★★★

# JJ-FILES

CALEDONIA PDL • DISK NO: AU.143 • £2.50 • MEMORY: 0.5MB • MONO MONITOR REQUIRED • SHAREWARE

**IN BRIEF:** As your disk collection grows, finding that utility you 'know you've got somewhere' becomes more and more difficult. **JJ-Files** is the latest in a long line of disk cataloguers that has been designed to combat this very problem.

It's all been done before but never in quite such amazing style! Full comments can be added to each entry for cryptical file names and the search options really are second to none.

The fully GEM'ed interface is also one of the best that has ever been seen in the public domain.

A combination of icons and menus are used to make the whole thing feel like a natural progression from the desktop – so much so in fact that you're hardly likely to notice that the instruction file is in German!

**ST REVIEW COMMENT:**

"Put aside the need for a mono monitor and you have a wonderful piece of software. It's fast, beautiful to look at and is just the job for sprawling disk collections everywhere."

★★★★

# SHARE PLOTTER

GOODMAN ENTERPRISES • DISK NO: GD1737 • £2.75 • MEMORY: 0.5MB • SHAREWARE

**IN BRIEF:** This is a useful little number that keeps track of the performance of your shares on the stock market (if you can afford any). Simply enter the relevant details and up will spring a graph giving you the market trend. Further graphs can be overlaid for comparisons and several example companies are provided on disk including British Airways and B.P.

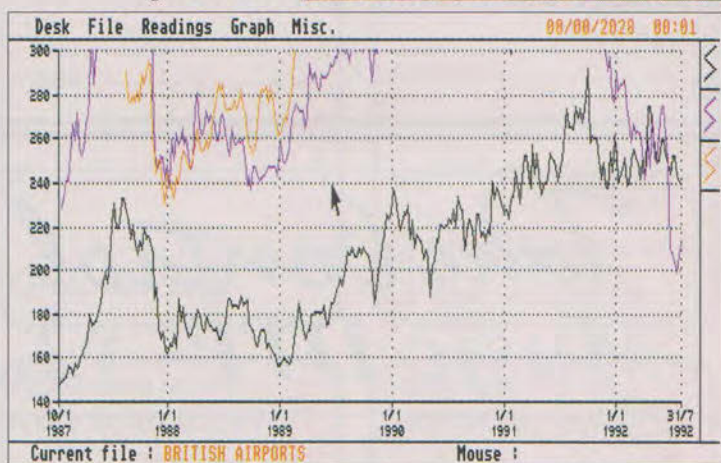
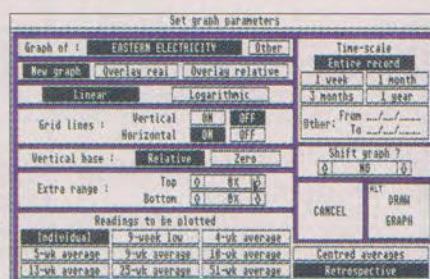
Updating share values is very easy and accomplished entirely from the keyboard, so there's no mouse juggling involved. The graph plotting itself is also comprehensive and can be adjusted easily to suit your needs via a user-friendly dialogue box.

The whole interface is GEM based and although the results look excellent, there's something slightly tacky about the presentation. This is compounded by the lack of documentation, which is not too much of a problem in itself, but it certainly doesn't add to the appeal. Still, it's worth investigating.

**ST REVIEW COMMENT:** "Share Plotter is ideal for keeping track of your financial investments, although the presentation could do with some attention. Lack of documentation aside, this is a very handy piece of software."

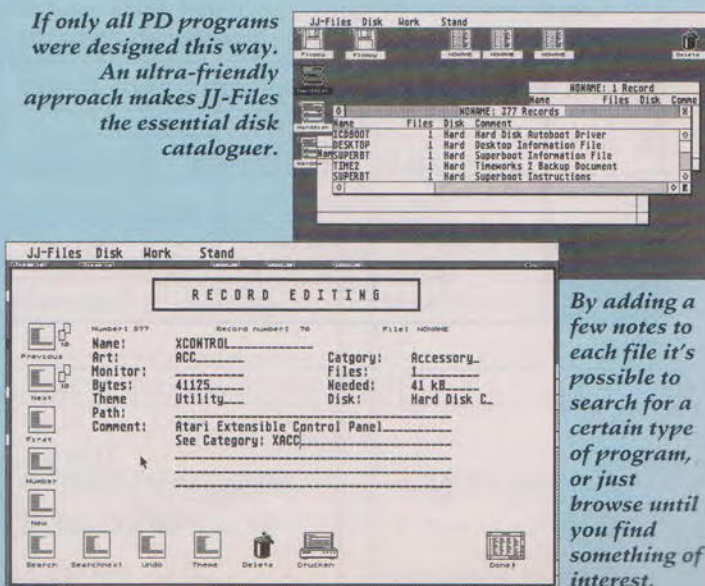
★★★★

*Plotting of graphs is controlled via this giant – it's not that difficult when you get used to it.*



*Check how much cash your shares have made, or lost for you in the last 12 months.*

*If only all PD programs were designed this way. An ultra-friendly approach makes JJ-Files the essential disk cataloguer.*



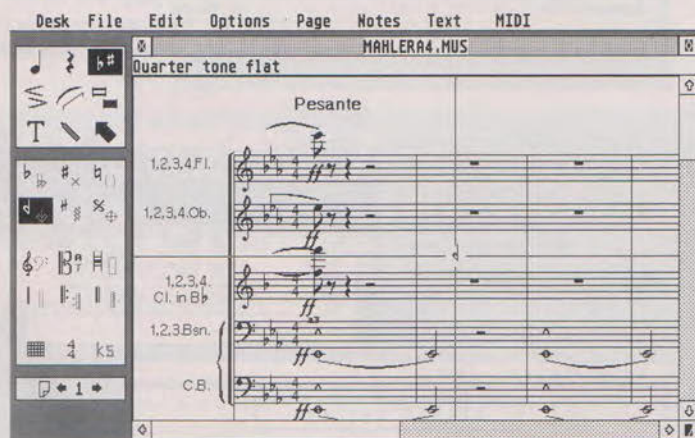
*By adding a few notes to each file it's possible to search for a certain type of program, or just browse until you find something of interest.*



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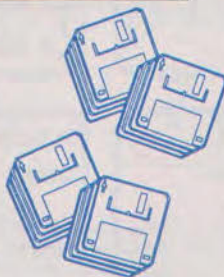
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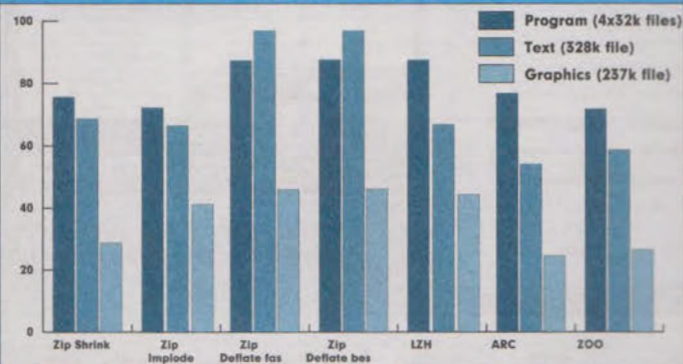
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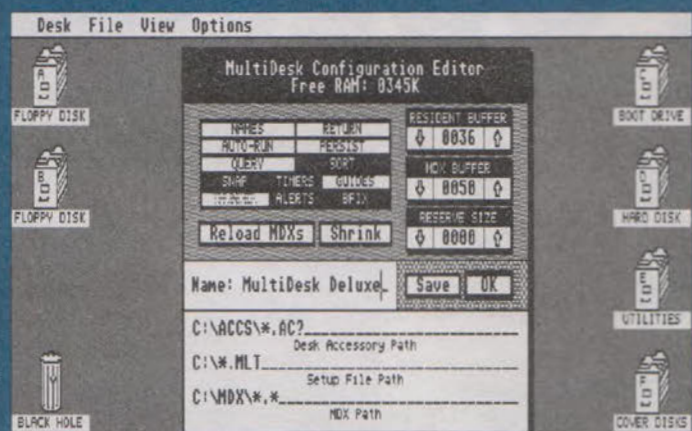


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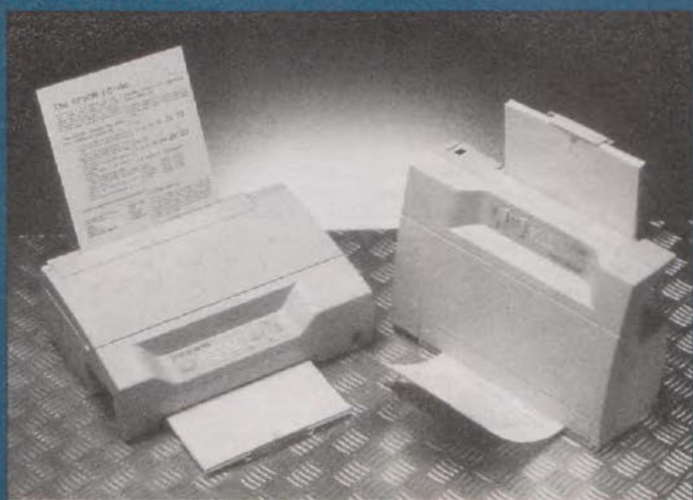
COMPRESSION RATIO AS A PERCENTAGE



Use the latest version of the highly popular LZH archive program as featured on this month's cover disk!



Fed up of only having six slots for your Desk Accessories? Multi Desk Deluxe will give you up to 96!



Win a printer! Yet another fabulous competition with two Epson printers to be won. Full details on page 113.

Welcome to the place where everyone gets the Blues – the part of the magazine that looks at some of the more specialist uses of the ST. Within the pages of ST Buyer you'll find stimulating fare to complement your knowledge of the ST...

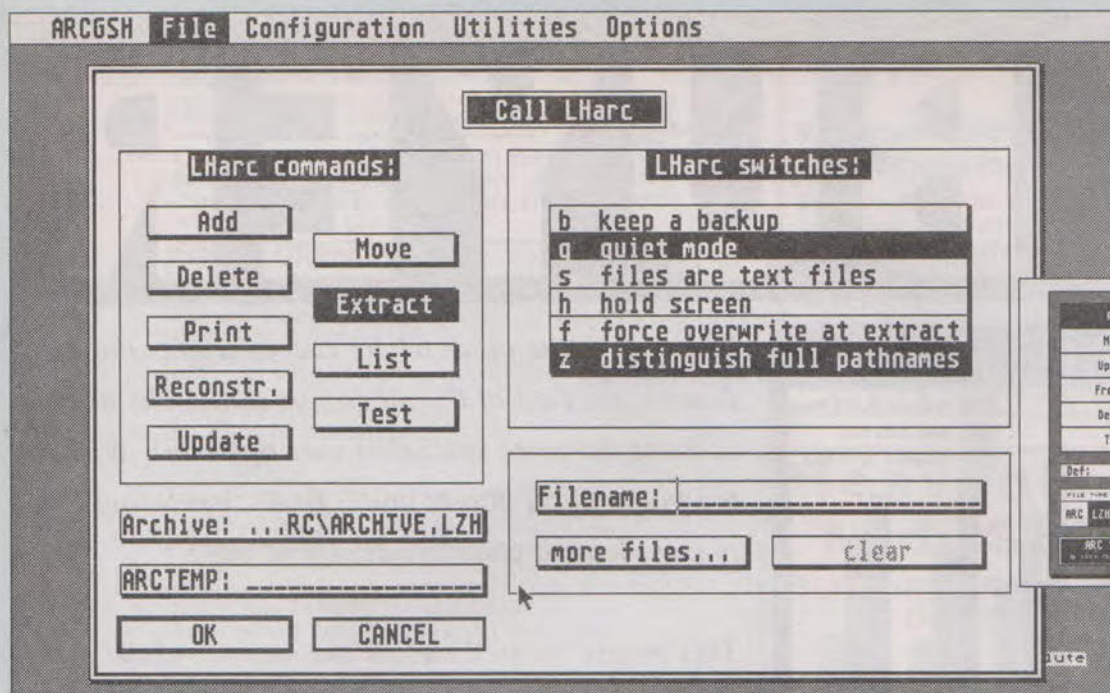
This month we pull out all the stops to show you just how archive programs work with a complete step-by-step guide starting on page 92. It features the latest (and greatest) archive program LZH – a full version of the program is included on this month's cover disk.

Our popular series on HiSoft BASIC is guaranteed to get those grey cells working and this month sees part three of the series on writing your own address book. On the cover disk there's also a full list of HiSoft BASIC commands with an explanation of each one.

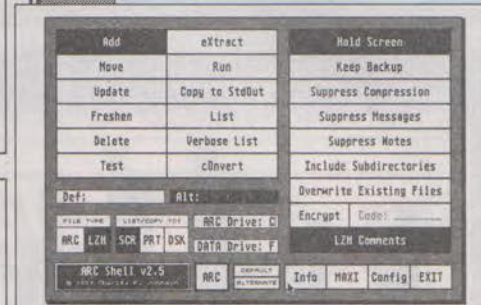
Once you've finished programming, you might decide that you could use some different accessories. Pity you can't just load as many as you need. Starting on page 96 we take a look at the highly polished Multi Desk Deluxe which will allow you to just that. It will load up to 96 accessories dependent upon the amount of memory that you have.

Finally, there are all the usual features including five pages of MIDI Monthly looking at the latest offerings from the world of ST music, together with Comms, Ask the Experts, all your Letters and more.





ARCGSH is an alternative from Germany which also supports ZOO.



ARCShell - a fast and friendly way to archive and extract files.

# PROBLEM SOLVED

## FILE ARCHIVING

Andrew Wright puts on the squeeze this month with a look at how file archiving can improve storage

You might be forgiven for thinking that squeezing, deflating, freezing and crunching are things that go on in a medieval torture chamber. In fact they are phrases used by the most widely used archiving utilities such as ARC, LZH and ZIP to denote the process of compressing files. Unfortunately, for most users, these utilities are a bit like medieval torture - to get the most from them, commands have to be entered from the keyboard using cryptic codes.

In this, the second in our new hands-on series, we'll take a look at archiving and what it all means. We'll also guide you through the various steps to compress and then extract a file with some no-nonsense screenshots to help you find your way.

### SAVING SPACE

What does archiving achieve? Basically it's a means of storing information more efficiently either to save file storage space, to squeeze a given amount of program and data files onto a single floppy disk or to save money when transferring information via a modem. It is also far easier to store related files in one archived file than several separate folders.

Think of it as the sardine tin principle - it's much easier to squeeze dozens of fish into a single tin, put on a lid and carry them around that way than wrapped up individually in bits of soggy paper. If you have a growing PD collection but can't bear to ditch the programs you just might need one day, archiving them might well be the answer as far as storage goes.

Many games and commercial software applications are supplied in compressed form with a special program to extract the files and install them on a hard disk or set of floppies. Some PD libraries use the same technique to get more onto a disk. Virtually all BBSs and systems such as Compuserve and CIX store files in archived format. Text files and GIF graphics files are an exception because modern modems have built-in data compression features which make it pointless compressing small text files. GIF files are colour pictures in a special compressed format developed for use on Compuserve. As the GIF format is so efficient, it is often a waste of time trying to compress a picture further, although the latest ZIP and LZH formats are considerably better than GIF at squeezing graphics so this may well change.

### SHELLING OUT

Archiving programs are, for some unknown reason, among the unfriendliest in the world: you need to study the documentation carefully before you have a chance of making any of them work.

Archivers tend to be \*TTP programs (short for TOS Takes Parameters) which require the user to enter a set of instructions in abbreviated form. This can be extremely off-putting and is not without its problems. You may, for example, forget to enter a destination path correctly, with the result that the files are extracted into an obscure directory deep inside the innards of your hard disk. Looking for them takes ages.

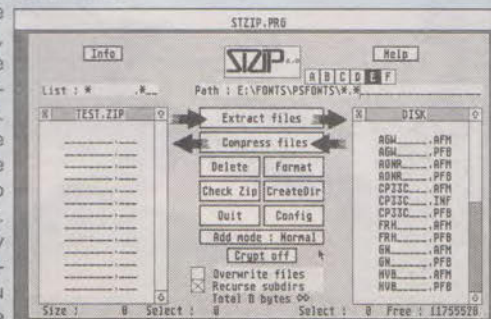
A common problem experienced by floppy disk users is that the first dozen files are extracted perfectly, but lack of room on the disk brings the process to a grinding halt.

Undoubtedly, the best way to archive and extract files is to use a shell program. These are usually friendly GEM programs that let you carry out the whole process using drop-down menus, a file

selector and dialogue boxes instead of the primitive, cryptic command line. The two most widely used ones are **ARCShell** by Codehead programmer Charles Johnson and **ARCGSH** by a German called Rainer Klute. Both are widely available from good PD libraries and can be found together on Goodmans Disk GD700.

All you need to do is ensure you put the shell program in a folder along with the actual archivers you intend to use.

Then you have to set up the configuration file so that the shell knows where the archivers are. In general, shell programs tend to prove their worth in complex operations, but for day-to-day archiving and extracting, they can be extremely cumbersome.



STZIP 2.0 features a neat interface.



# AS OLD AS THE ARC

The history of computer compression programs would make fascinating reading, but we'll stick to the basic facts here and keep it short. The oldest, and probably the most widely known compression format is ARC, which is a trademark of System Enhancement Associates in the US. Archived files have an .ARC extender (ie the last three letters of the filename).

It was first introduced in 1985 and it spread quickly from bulletin board to bulletin board and is now used on virtually every personal computer platform around - there are versions for the Mac, PC and ST, which is a great help when exchanging files with other users. The latest version is 6.02, released

in 1989, which is substantially faster than version 5, so if you're into ARC and still using the old version, it's definitely worth upgrading.

The next major compression format to appear on the scene was LHARC written by Haruyasu Yoshizaki. It produces archives with an .LZH extender. Even in its early form, LHARC 1.13c, it was a much more effective compression program than ARC, but it did suffer from being excessively slow. The present version, version 2.0, is a bit faster but just as effective at compressing files. It is based on the same format but uses optimised code added by Thomas Quester. It is often referred to as Quester LZH format.

## ZIPPING ALONG

The third major format is ZIP. It was first launched on the PC in 1989 with a version quickly being made available on the ST. Version 2.0 for the PC is at beta test stage at present but it seems that the ST world has got there first! French programmer Vincent Pomey has recently released STZIP 2.0, a program that is backwards compatible with earlier forms of ZIP as well as the forthcoming ZIP 2.0 on the PC. And as you'll see from the test results, it's extremely fast and very efficient. Naturally enough, ZIP archives have a .ZIP extender.

The fourth contender in our lineup is ZOO. This has been around for a while and never really caught on. Its performance isn't bad, though, and we've included it in the tests simply because it was available.

There are plenty of other formats, but most aren't available on the ST and they are rarely found on BBSs. Incidentally, we've included only the latest versions of the programs in the tests - as the latest version will decompress files compressed by earlier versions, it makes no sense to use older, slower versions.

Once you've packed your files into your chosen archive, all the formats can be made into self-extracting archives. A small executable program is added to the archive, turning it into one big program. When it is double clicked, the executable part automatically extracts all the files from the archive into the same directory. This makes it much easier to access the files and is useful for passing files on to friends - no knowledge of archiving is required to get at what's inside.

## JUST HOW WELL DO THE ARCHIVERS COMPARE?

Tables 1 and 2 show the results of some simple archiving tests used by us to give you an idea of just how good some of the archive packages are. We took three different types of computer file - a program file, a text file and a graphics file, and compressed each of them using various compression programs. Each program gave results for the compression ratio (the percentage size of the original to which it was compressed), and the actual speed of the program.

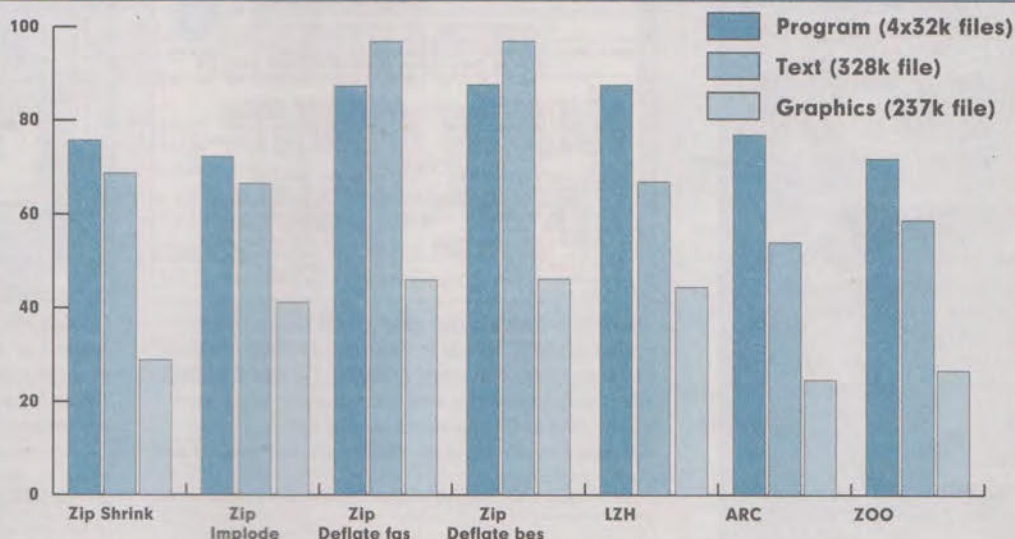
### THE TESTS

The tests were carried out using LHARC.TTP (version 2.01h), ARC.TTP (version 6.02) and ZOO.TTP as well as the brand new STZIP 2.0, the latest version of ZIP with a very easy to use GEM shell. Each of the options uses a slightly different compression algorithm - shrink is fast, implode means the archive is compatible with the earlier versions and deflate is the latest algorithm that offers both speed and efficiency.

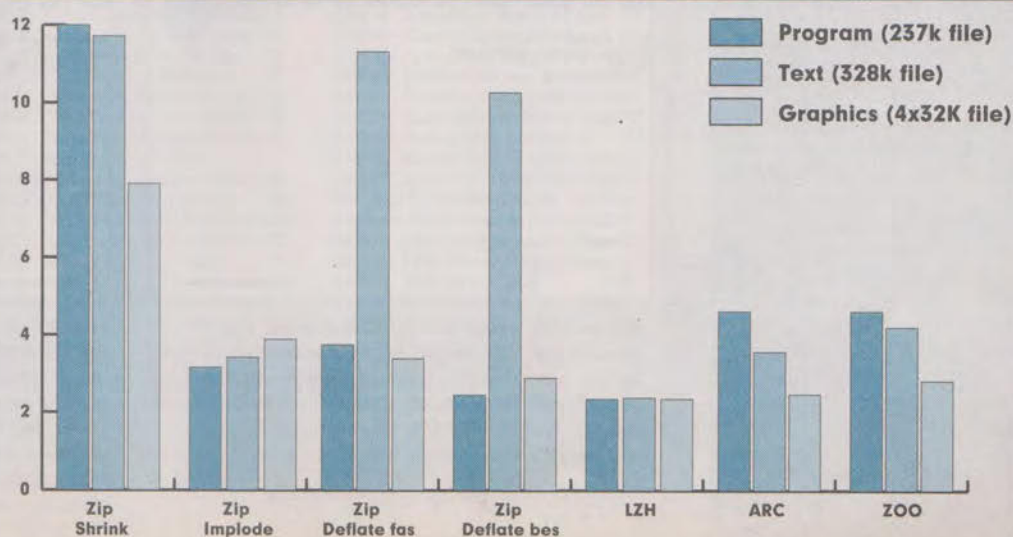
If you choose deflate you can also specify higher speed or higher compression but you will find that the differences are marginal - ZIP/deflate outperforms the other formats by a considerable margin and it will no doubt become increasingly popular on the ST.

At present, though, most BBSs and libraries are still using the standard LZH and ARC formats.

COMPRESSION RATIO AS A PERCENTAGE



COMPRESSION SPEED (KILOBYTES PER SECOND)





## MORE COMMANDS

If you've followed the step-by-step guide and managed to archive and extract the file, you're halfway there. Now all that remains is to learn a few of the more commonly used commands and switches that will let you archive and extract files quickly and efficiently. Let's assume we have an archive called **ARCHIVE.LZH** with three files inside it, **FILE1.TXT**, **FILE2.TXT** and **FILE3.TXT**. Here's a list of commands that you will need.

### UPDATE (u):

**Command:** `u archive.lzh file1.txt`

If you had changed **FILE1.TXT**, this would ensure that the most recent version of the file was stored in the archive (the program checks the time/date of the file).

### EXTRACT INDIVIDUAL FILES (x):

**Command:** `x archive.lzh file2.txt`

This command extracts only one file from the archive. This is useful for storing lots of data files in large archives, each of which take up most of a floppy disk. When the file is needed, it can be extracted quickly and easily. It is also the best way to deal with large archives which wouldn't otherwise extract onto a single floppy disk. By extracting a file or group of files at a time, you can put the files where you want them.

### VIEW (v):

**Command:** `v archive.lzh /h`

This produces a list of the files in the archive on screen. The `/h` switch asks the program to hold the screen display until you press a key. Try it without and you won't be able to read the output.

### FOLDERS:

When archiving files it saves a lot of time if you can specify all your files in one command line. The recursive `/r2` switch is useful here. `a archive.lzh b:\NEWFLDR.* /r2`

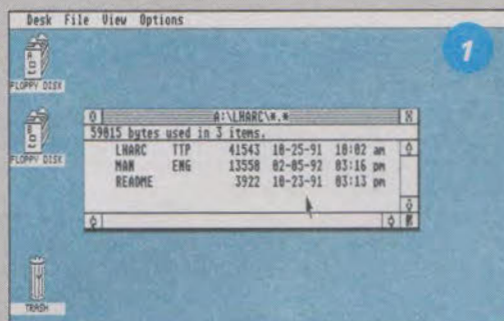
This ensures that all the files in the folder **NEWFLDR** on drive **B** are added to the **ARCHIVE.LZH** archive.

### INDIVIDUAL FILES:

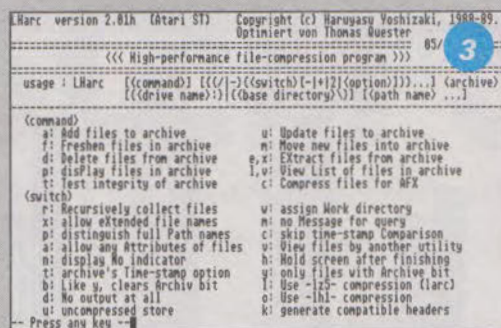
If you want to create an archive consisting of a dozen files from different directories, you have two options. You can copy them all together into a spare folder, or better still a RAM disk, and then use the `a` command and `/r2` switch. Alternatively you can use the `add` command several times, in succession, building up the archive as you go (if you add a file to an existing archive the original contents are preserved unless there are two files with the same name). Incidentally, pressing **Control C** at any time will halt **LHARC** and return you to the desktop.

## STEP BY STEP

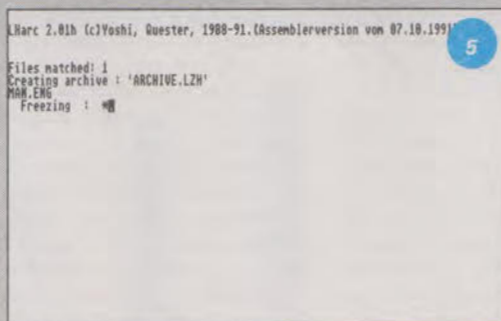
Using an archive program can be tricky. It's best to learn the basic commands that will enable you to do it from the desktop. Here's how to use **LHARC** on this month's cover disk



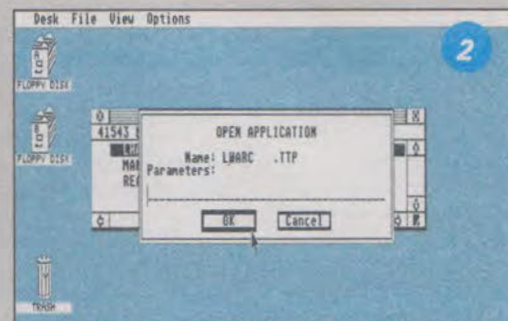
Double-click on the program **LHARC.TTP**. A small dialogue box will appear asking you to enter the program parameters. These are the instructions that **LHARC** expects telling it what to do to which file.



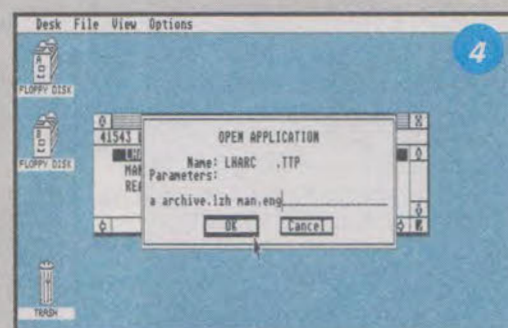
On this month's cover disk you'll find a folder called **LHARC**. Inside is the main **LHARC** archiver program plus a manual (**MAN.ENG**) and **README** file. Copy the folder and its contents to a spare blank disk and then open up the folder so you can see the files inside. Make sure the disk is not write-protected.



Do nothing - just watch! This is what you should see. The length of the file is represented by the row of dots which change to asterisks as the process is gradually completed. In this case the file is short but if it were a large file, the dots might well extend off the screen.

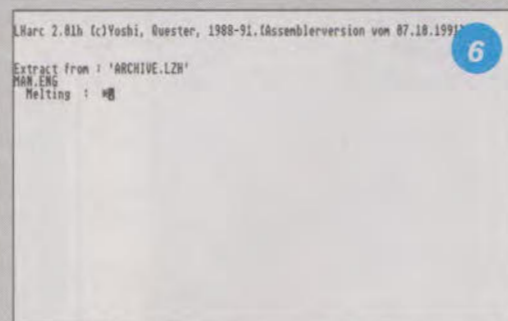


Hit the **Return** key or click on **OK**. You'll see a screen full of what looks like gibberish, but is actually the help screen with a list of possible commands and switches. Press any key for the next screen and again to exit.



Double-click on **LHARC.TTP** to bring up the dialogue box. Now we are going to archive the manual (the file called **MAN.ENG**) and store it in the same folder in an archive called **ARCHIVE.LZH**. Type in the instructions as shown: `a archive.lzh man.eng`

In this case, '`a`' is for add. We're telling the program to add the file **MAN.ENG** to the archive called **ARCHIVE.LZH**. If the archive doesn't exist, the program will create it. You can use upper or lower case, but the spaces are important. Now hit **Return** or click on **OK**.



You are returned to the desktop where you'll see the file **ARCHIVE.LZH**. Now let's try to extract the file. If we enter the command line `x archive.lzh` the file won't extract as **MAN.ENG** already exists in the folder. We have to redirect the extracted file. `x archive.lzh a:\` tells the program to extract the contents of the archive and write them to the root directory of drive **A**. `x archive.lzh a:\new\` makes the program ask for confirmation.



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| UTIL-21 | Sticker III (best disk labeller)   | 'D' |
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| UTIL-05 | 7 suites of various label prog     | 'S' |
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| UTIL-32 | MINT (unix type system)            | 'D' |
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| COM-07 | Freeze Dried Terminal                     | 'D' |
| COM-08 | View D/L files when off-line + 4          | 'D' |
| COM-05 | D-Term with Z-modem module                | 'S' |
| COM-06 | Mo-Term Elite (for buffs)                 | 'S' |

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The ST has six accessory slots available, but what if you need more? Tony Kaye looks at *Multidesk Deluxe* and compares it with a couple of offerings from the Public Domain...



# STUFF IT WITH MU

Accessories are great. They're just a mouse-click away whenever you need them. Accessible from within any GEM-based program, they do, however, have some drawbacks. Firstly, you are limited to only six at any one time. Try to load more and they will be ignored. Secondly, unless you have a hard drive or use a boot disk, they have to be loaded in when you turn the computer on because there is no way of adding them from within a work session.

These are not insurmountable problems, though. The good news is that there are both commercial and public domain programs available that you can use to overcome all these limitations.

## LOADING FROM THE DESKTOP

Two of the three programs featured here allow you to add an accessory from the desktop. *Multidesk Deluxe* does this in two

ways; it allows you to load up to 96 accessories (memory permitting) at the time of booting and change them as you go. Apart from that, it also allows you to run single accessories without having them permanently taking up valuable memory space. These accessories are called MDXs. This new feature introduced for the Deluxe version is extremely handy when working with a half or one Megabyte ST when memory space is vital. Some accessories have to be resident at all times, like RAMdisks, mouse accelerators and anything that patches into the STs system routines.

Because of this, MDX accessories are wiped from memory when you close them, so they would be unable to perform background functions.

To save you having to load the individual accessories for each work session, you can save particular setups and call on them as

required. This is apart from saving the initial bootup settings from the Configure menu.

For example, for word processing, you could have your spell checker, picture grabber and maybe a RAMdisk available, whilst for art, Cybersmash, picture viewer, grabber and graphics accelerator could be used. The commands for this are Save Setup and Load Setup.

## MANUAL HELP

Using the Configuration screen is a little confusing at first, but five minutes with the manual soon has it all making sense. On the left of the screen are a series of options such as Names which displays a box showing which accessories are loading, Return which always takes you back to *Multidesk* after a DA has been run, Auto-Run will run the DA when selected from the Load Acc option on the main screen and Snap which causes the mouse to instantly go to the position of the first accessory whenever *Multidesk* is selected.

A small bug in TOS 1.04 and above causes the system to read two mouse clicks instead of one on occasions. The button labelled BFIX will cure this problem for you automatically.

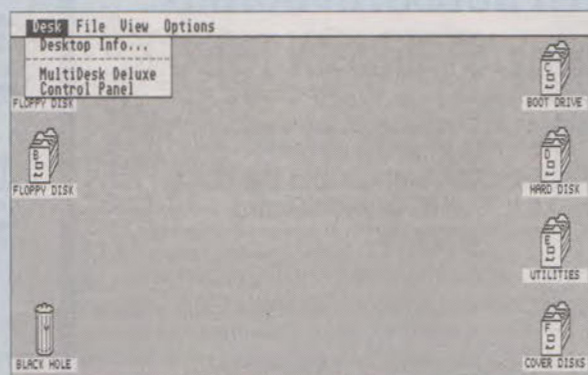
## EXTRA MEMORY

Some DAs allocate extra memory when they run. *Multidesk* allows you to allocate an area of RAM for this purpose. This is set using the Reserve Size option. The MDX Buffer is the size of memory available for the non-resident DAs, so it needs to be set at the size of the largest DA you are likely to load into it. If you are unsure of how much space to leave, make sure this is set fairly low and *Multidesk* will tell you if you need more.

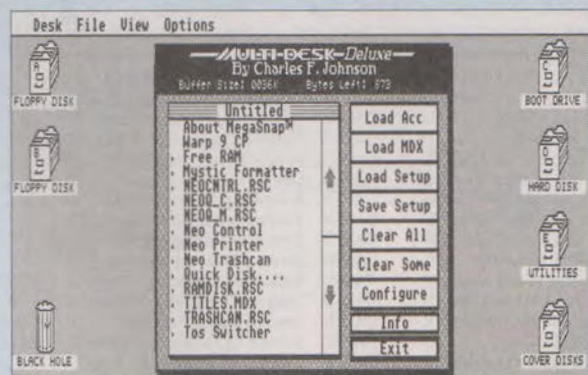
## MULTIDESK.PRGM

Renaming a second copy of *Multidesk Deluxe* so that it has the extension .PRGM instead of .ACC will enable you to install it as an application using TOS 1.04 or greater. This gives you the ability to double-click on an accessory and run it without having to reboot the computer. When you exit from the accessory, it will leave no trace of itself in memory, so do not use this as a method of loading a DA that needs to be memory resident.

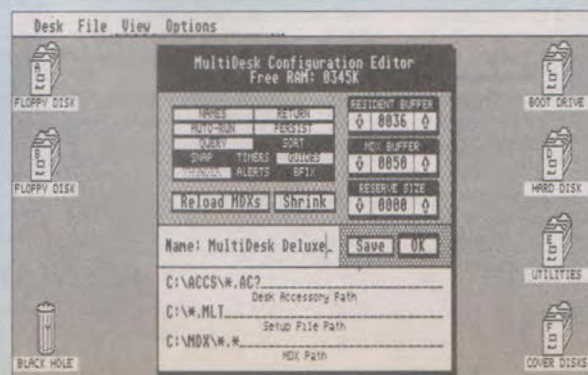
Other features of *Multidesk Deluxe* include the ability to select all paths for accessories, setup files and the MDX folder. Different DA selections can be created as default setups for whichever resolution you boot the computer up in. If you



Two accessory slots used, one for the control panel and one for *Multidesk Deluxe*. (memory resident) if required.



The main *Multidesk* screen. Items marked with a dot are MDX non resident accessories.



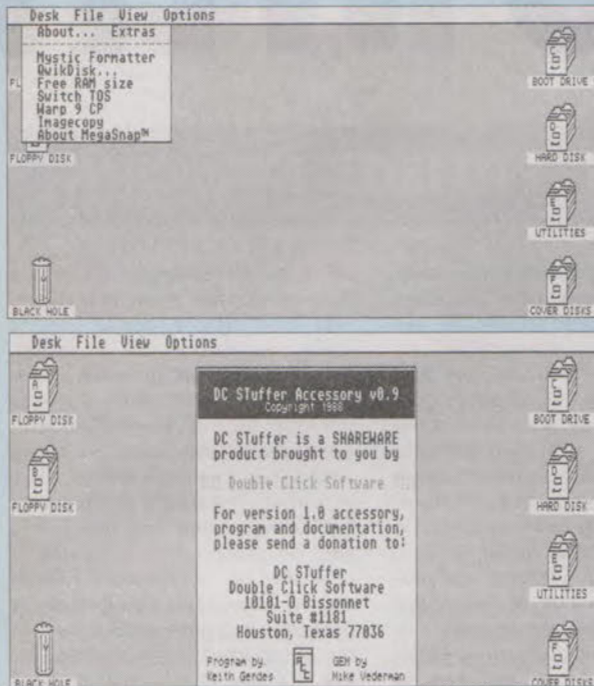
The configuration screen allows a variety of adjustments from buffer sizes to changing the name that appears at the top of the screen.

## TRY IT YOURSELF

On this month's cover disk, you'll find a demo version of *Multidesk V2.1*. The features are very much reduced from the Deluxe version, but it will give you an idea of the power and usefulness of the program. Most of the setup functions are disabled and there is a nine minute time limit, after which you can no longer select the accessories.



# MULTIDISK DELUXE!!



*It looks like a normal Desk menu, but there are seven accessories! Impossible! Not with DC Stuffer.*

*The information screen tells you how to register and receive the upgrade.*

have a file called MULTDSK1.MLT in the directory where the main program resides, the setup for medium resolution will load. Change the last number to 0 and a low resolution setup can be created. You can even change the name that the **Multidesk** file itself displays in the accessory slot when it is loaded. A program is provided called MDXTITLE.PRG. As the title of a program in the DA slot is not always the same as the program name, this program allows you to set up a file of names for all of the MDXs so that you can give them your own name.

## SAVING THOSE VALUABLE DA SLOTS

With only six desk accessory slots available, it's important to make good use of them. **DCStuffer V0.9**, a shareware product from Double Click Software in the USA, allows you to load up to 32 DAs at boot-up time.

Unlike **Multidesk**, you can't add or remove them during the session, so it's a little less flexible. You do, however, get the option to abort the loading process by pressing the right shift button while loading. A screen is provided by the program informing you about which DAs are being loaded. There is no value put on **DCStuffer**. You are encouraged to send 'a donation' to Double Click and in return, they will send you the latest version and full documentation.

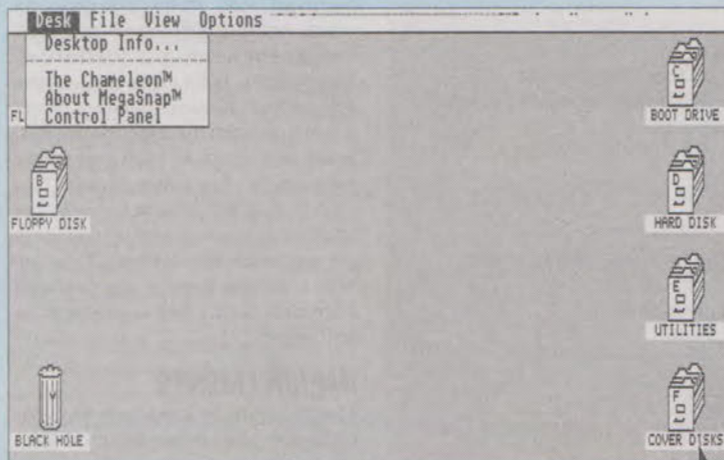
## ONE AT A TIME

**The Chameleon** is a highly regarded PD option. It allows you to load one

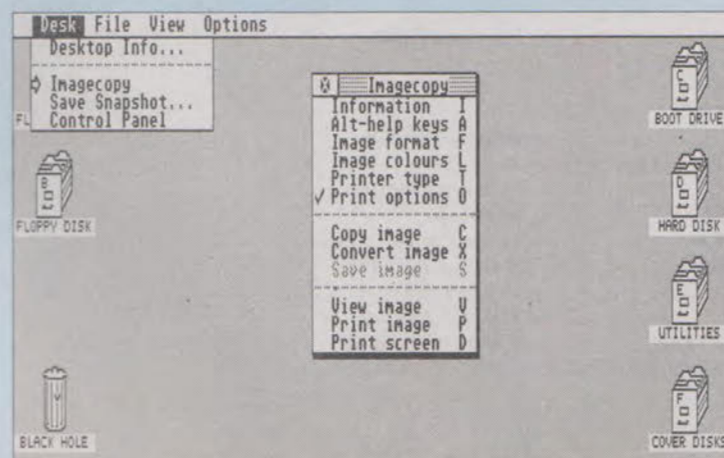
accessory at any one time, but it has the advantage over **DCStuffer** of allowing you to change them 'on the fly'.

Click on **The Chameleon** after the computer has booted and you are presented with the file selector. Simply choose which accessory you want to load and it will be run. The slot for **The Chameleon** will change to show the name of the accessory along with an arrow. This will now run as the new accessory until you decide that you want to change it. Again, this is simply a matter of holding down the right shift and alternate keys while selecting the DA to remove it. **The Chameleon** is now ready to take another accessory.

Using only eight Kilobytes of RAM, **The Chameleon** is small and compact, but it obviously doesn't have the range of **DCStuffer** or the versatility of **Multidesk**. However, this is a good choice for a limited memory system.



*The Chameleon is a single accessory loader. It shows its own name until an accessory is loaded. Then, like its lizard namesake...*



*...it changes to take the name of the accessory loaded. This now works in the normal way, but there's an arrow to remind you that selecting this with the right shift and alternate keys pressed, an alternative can replace the existing accessory.*

## WHAT IS A DESK ACCESSORY?

If you are new to the ST or the GEM environment, you may not have used desk accessories, so all of this talk may be a little alien to you. A desk accessory is a program that is accessible from the desktop when needed. It has the extension .ACC and needs to be placed on the disk that is in the drive when you switch the computer on. It must be in the root directory in order to run. These programs allow you to make use of these features without having to reboot to load them or to have access to more than the GEM limit of six DAs at any one time.

Comprehensive list of functions  
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## PROS AND CONS

Buffer sizes need experimenting with  
Not all DAs run with the program

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# WORKING WITH

## WRITE YOUR OWN ADDRESS BOOK – PART THREE

This month we show you how to remove an entry and integrate your program with a GEM dialogue box



As you may recall we have allowed for six lines of text per address cell. The book\$() array can hold up to 600 lines and up to 100 different cells, each containing a name, address and telephone number. We will refer to each of the six lines in a cell as an 'item'.

Deleting a cell requires us to simply zero the six items it contains. This can be done by simply storing a null (empty) text string in each item. To delete cell number two, for example, we want to 'zero' items six to 11. See example one.

### EXAMPLE ONE

```
FOR i=6 to 11
    book$(i)=""
NEXT i
```

*'step through items  
'store null string in each item*

### EXAMPLE TWO

```
SUB remove_cell(start_item)
    SHARED book$(),lines
    STATIC i
    lines=lines-6
    FOR i=start_item to lines
        book$(i)=book$(i+6)
    NEXT i
END SUB
```

*'lines is the total number of items  
'one cell removed*

### EXAMPLE THREE

```
SUB delete_find
    SHARED book$(),lines
    STATIC i,srch$,tmp$
    PRINT "Find cell to delete"
    INPUT "Enter search string";srch$
    FOR i=0 to lines STEP 6
        IF INSTR(book$(i),srch$) THEN
            show_cell i
            PRINT "Delete cell. Are you sure? (Y/N)"
            DO
                tmp$=INKEY$
            LOOP UNTIL tmp$<>""
            IF tmp$="Y" THEN
                remove_cell i
                EXIT SUB
            ELSEIF tmp$="N" THEN
                PRINT "Delete cancelled"
                EXIT SUB
            END IF
        END IF
    NEXT i
    'if the sub has reached this point it means that no cell
    'was found
    PRINT "Not Found"
END SUB
```

*'user message  
'display the cell  
'now wait for user  
'to decide  
'so loop until he does  
'if user pressed 'Y'  
'call remove\_cell  
'and exit this sub  
'if user pressed 'N'*

This method has one major drawback. While we have removed what was stored in the cell, we have not freed the space for new entries. If, for example, we had cells three and four already occupied and then removed cell two, the next time we call new\_name to store a new name and address it would go to the next free cell - number five, leaving cell two empty. If we do not find a better way of removing a cell a user of our program will run out of cell space much faster than anticipated.

A better solution is to move all the cells so that once cell two is removed, cell three will take its place, cell four will then move to fill the gap and so on up to the last cell. Sub remove\_cell will be passed the line or item to start deleting from. It will then step through the book\$() array and move all items six steps backwards. See example two.

All that is left now is to write yet another sub which will let us locate the cell we want deleted. This will take a similar form to the find sub from last month. See example three on the left.

### IMPROVEMENTS

The program is more or less complete now, but it can be improved.

We can, for example, make the finding routines more friendly so that they ignore capital letters while searching for a name. Fortunately, **BASIC** provides a simple way around this. For the purpose of the search we can upper-case both search string 'srch\$' and the book\$() entry looked at. The **BASIC** command is UCASE\$(), where any text string can be placed in the brackets. UCASE\$ is a function which returns any text string that is passed to it upper-cased. Note that the string itself is left unchanged. Try example four, which demonstrates the effect of the function.

Both sub find and sub delete find can now be improved to include this feature.

Another useful feature of **BASIC** is the use of constants. Like variables, constants are assigned a value in the usual way, but this value is fixed and cannot be changed. Constants are mainly used to give numbers in a program some textual meaning. In our program we have a few fixed numbers or constants. The number of items per cell is fixed at six and we can place this constant at the beginning of the program for a clearer layout.

### CONST cell\_size=6

The DIM statement can now be: DIM book\$(cell\_size\*100-1)

This will give book\$() 6\*100-1=599 elements just like before. We can now go on and replace the number six with the constant cell\_size. One thing to note about constants is they can only be whole numbers (integers). An additional benefit of using constants is that if you decide to change the cell size to seven items per cell, your work will be much easier. To improve the readability of the program I have renamed the variable 'lines' as 'items'. Lastly, a new sub called menu is used to display the user options. Check the listings for all the new additions.

### DIALOGUE BOXES AND RESOURCE FILES

So far, the address book program did not take much advantage of GEM's user friendly features except for the odd alert box.



# HI-SOFT BASIC

## EXAMPLE FOUR

```
a$="Atari ST Review"
b$=UCASE$(a$)
c$=LCASE$(a$)
PRINT a$
PRINT b$
PRINT c$
PRINT a$,b$,c$
```

'b\$ is now ATARI ST REVIEW  
'c\$ is now atari st review

## EXAMPLE FIVE

```
tmp=FNsrc_load("ADDRESS.GEM\ADDRESS.RSC")
IF tmp=0 THEN
    PRINT "Resource file not found"
    STOP
END IF
```

Displaying and interacting with dialogue boxes and menus is not that easy, but it is well worth the extra effort. Using dialogue boxes can give your programs a professional look and make them much easier to use. **HiSoft BASIC 2** includes **WERCS** which allows you to design your own dialogue boxes, icons and menus as a resource file. The package also includes the **HiSoft GEM Toolbox (HGT)** which greatly simplifies the use of such resource files. The **HGT** is a selection of sub programs and functions that can be included in your programs and some of these routines will be included on next month's cover disk for use with this tutorial.

In the meantime, let's start by simply loading a resource file and displaying a dialogue box. On the cover disk you will find the file **ADDRESS.RSC**. Create a folder on your work disk and name it

**ADDRESS.GEM** then copy **ADDRESS.RSC** into it. Run **HiSoft BASIC** and type in the following:

```
DEFINT a-z
LIBRARY "gemaes"
```

Now select Save As... and save the new program into the folder **ADDRESS.GEM**, naming it **ADDRESS.BAS**. Next is the **FNsrc\_load** function which loads the resource file into memory. The function is passed the name of the file and returns 0 if the file was not found. See example five.

This simple routine makes sure that the resource file was correctly loaded. Next, the memory location of the file must be found using the **FNsrc\_gaddr** function. Three parameters are passed to this function - the first two are simply 0 while the third is a variable which

## ADDRESS BOOK SOURCE CODE

```
DEFINT a-z
LIBRARY "gemaes"
CONST cell_size=6

DIM book$(100*cell_size-1)

CALL load_book
CALL menu

DO
    user$=INKEY$
    SELECT CASE user$
        CASE=="N"
            CALL new_name
        CASE=="F"
            CALL find
        CASE=="S"
            CALL save_book
        CASE=="Q"
            CALL quit
        CASE=="I"
            CALL info
        CASE=="D"
            CALL delete_find
        CASE=="M"
            CALL menu
    END SELECT
LOOP
```

```
SUB menu
    PRINT "ADDRESS BOOK OPTIONS"
    PRINT "=====
    PRINT "N - New name"
    PRINT "F - Find name"
    PRINT "S - Save book"
    PRINT "I - Info"
    PRINT "D - Delete name"
    PRINT "M - Show this Menu"
    PRINT "Q - Quit"
END SUB
```

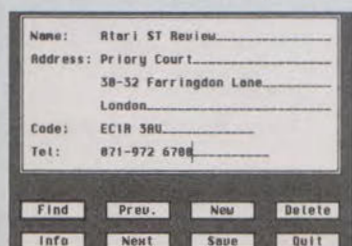
```
SUB load_book
    SHARED book$( ), items
    STATIC i
    IF EXISTS("BOOK.DAT") THEN
        OPEN "BOOK.DAT" FOR INPUT AS #1
        DO
            LINE INPUT #1,book$(i)
            INCR i
        LOOP UNTIL EOF(1)
        CLOSE #1
        items=i-1
    ELSE
        PRINT "ADDRESS BOOK NOT FOUND"
    END IF
END SUB
```

```
SUB save_book
    SHARED book$( ), items
    STATIC i
    PRINT "SAVING BOOK.DAT"
    OPEN "BOOK.DAT" FOR OUTPUT AS #1
    FOR i=0 TO items
        PRINT #1,book$(i)
    NEXT i
    CLOSE #1
```

contd on next page



Two of the many faces of our address book.



Next month you should be able to display the dialogue box and input data and use it with the address book program.

**UCASE\$** and **LCASE\$** are useful when writing text search routines that need to ignore capital and lower case letters.



END SUB

```
SUB new_name
  SHARED book$( ), items
  LOCAL tmp$(5)
  STATIC i
  IF items=599 THEN
    PRINT "Book is full"
    EXIT SUB
  END IF
  PRINT "NEW ENTRY"
  PRINT "===== "
  LINE INPUT "Name: "; tmp$(0)
  LINE INPUT "Street: "; tmp$(1)
  LINE INPUT "Town: "; tmp$(2)
  LINE INPUT "County: "; tmp$(3)
  LINE INPUT "Post Code: "; tmp$(4)
  LINE INPUT "Tel: "; tmp$(5)
  IF tmp$(0)="" THEN EXIT SUB
  FOR i=0 TO 5
    book$(i+items)=tmp$(i)
  NEXT i
  items=items+cell_size
  PRINT "NEW NAME STORED"
  BEEP
END SUB
```

```
SUB quit
  STATIC a$, button
  a$="[2][ Save address book | before quitting ][Save|Quit|Cancel]"
  button=FNform_alert(1,a$)
  SELECT CASE button
    CASE=1
      CALL save_book SYSTEM 'if save was selected, call save_book then quit
    CASE=2
      SYSTEM 'just quit
  END SELECT
END SUB
```

```
SUB find
  SHARED book$( ), items
  STATIC i, srch$, a$, b$
  INPUT "Enter search string "; srch$ 'user enters name to find
  b$=UCASE$(srch$) 'make upper-case
  FOR i=0 TO items STEP cell_size
    a$=UCASE$(book$(i)) 'make upper-case
    IF INSTR(a$, b$) THEN 'compare, if found then
      show_cell i 'show the cell starting at i
      EXIT SUB 'then exit the search
    END IF
  NEXT i
END SUB
```

```
SUB show_cell(start) 'start is the passed parameter
  SHARED book$( )
  STATIC i
  FOR i=0 TO 5
    PRINT book$(start+i) 'print the six items
  NEXT i
END SUB
```

```
SUB info
  SHARED items
  STATIC dum, a$, total$
  total$=STR$(items\cell_size) 'str$ is used to convert the result into a text string
  a$="[1][ There are "+total$+" | cells in the | address book ][OK]"
  dum=FNform_alert(1,a$) 'this alert has only one button and we are not interested in the result
END SUB
```

```
SUB delete_find
  SHARED book$( ), items
  STATIC i, srch$, tmp$, a$, b$
  PRINT "Find cell to delete" 'user message
  INPUT "Enter search string "; srch$
```

the function will use to store the required memory location. Type in the following line.

**dum=FNsrc\_gaddr(0,0,box&)**

The variable 'box&' may have a value higher than 32,767 which is the limit for normal variables. The ampersand (&) is used to extend this range.

Now that the memory location is in 'box&', the AES can go about the business of displaying the box. Normally, you would want the dialogue box displayed in the centre of the screen and a special AES sub program is used to centre the box. The sub **form\_center** (American spelling!) is passed five parameters - the first is 'box&' while the other four are initially empty and

will be used by the sub to store the co-ordinates of the box. It is customary to use x,y,w and h.

**form\_center box&,x,y,w,h**

Now comes the routine that displays the box - **FNobjc\_draw**. This function takes seven parameters - the first is 'box&' which it uses to find the box in memory, the second should be 0, the third 10. The other four are x,y,w and h.

**dum=FNobjc\_draw(box&,0,10,x,y,w,h)**

Before you run this program add the next line to the end of the program: **dum=FNsrc\_free**

This function frees the resource file from memory. Failing to use it will use up your memory and you will need to reset your ST to get your RAM back.

## NEW COMMANDS

**UCASE\$(a\$)** - A function that returns a string upper-cased. The string itself remains unchanged.

**LCASE\$(a\$)** - Like UCASE\$, only produces a lower case string.

**CONST** - A statement used to define constants in a program.

**FNsrc\_load(file\$)** - An AES function which loads a resource file into memory. The function returns 0 if failed. Takes resource file name as a parameter.

**FNsrc\_gaddr(0,0,tree&)** - This function stores the memory location of a resource object tree such as a dialogue box in the variable tree&. The other two parameters are only used if there is more than one object in the resource file.

**form\_center tree&,x,y,w,h** - This sub is used to centre a dialogue box. It calculates the required co-ordinates and stores them in the variables x,y,w,h. The variable tree& must be found with FNsrc\_gaddr.

**FNobjc\_draw(tree&,0,10,x,y,w,h)** - The function that draws the object on screen. The numbers 0 and 10 should only be changed when you have a better understanding of the AES and are used to perform a partial drawing of the object. The co-ordinates x,y,w,h are normally produced by calling form\_center.

**FNsrc\_free** - Must be called at the end of the program. Frees memory occupied by the resource file.

```
b$=UCASE$(srch$)
FOR i=0 TO items STEP cell_size
  a$=UCASE$(book$(i))
  IF INSTR(a$,b$) THEN
    show_cell i 'display the cell
    PRINT "Delete cell. Are you sure? (Y/N)"
    DO 'now wait for user
      tmp$=INKEY$ 'to decide
    LOOP UNTIL tmp$<>"" 'so loop until he does
    IF tmp$=="Y" THEN 'if user pressed 'Y'
      remove_cell i 'call remove_cell
      EXIT SUB 'and exit this sub
    ELSEIF tmp$=="N" THEN 'if user pressed 'N'
      PRINT "Delete cancelled"
      EXIT SUB
    END IF
  END IF
NEXT i
'if the sub has reached this point it means that no cell
'was found
PRINT "Not Found"
END SUB
```

```
SUB remove_cell(start_item)
  SHARED book$( ), items 'items is the total number of items
  STATIC i
  items=items-cell_size 'one cell removed
  FOR i=start_item TO items
    book$(i)=book$(i+cell_size)
  NEXT i
END SUB
```



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# MIDI MONTHLY

## BREAKTHRU

GAJITS MUSIC SOFTWARE  
• £129.95 • 1 MB •  
COLOUR/MONO

**IN BRIEF:** *BreakThru* is the successor to one of the best selling sequencers that has ever appeared on the market, *Sequencer One*.

This is a linear sequencer which offers 64 tracks together with various editing screens including *Sequencer One Plus'* ingenious graphic editor along with a Tempo map which lets you draw your tempo changes in.

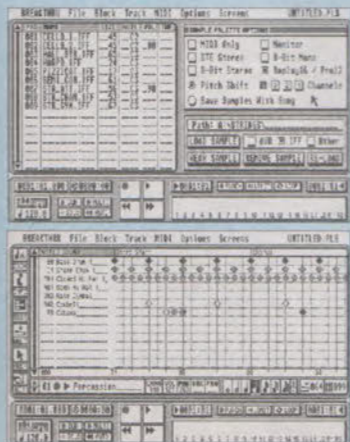
The sample playback facility of *Sequencer One Plus* has been extended in order to include the use of Microdeal's *Replay 16*; this is a 16-bit sampling interface which plugs into the ST's cartridge port. Alternatively, the cheaper *Replay 8* can be used along with the STE's stereo outputs or an STF's monitor.

New to *BreakThru* are Score and Drum editors. Also included is a Jukebox facility where you can save an 'album' of songs, set the gap between each playback and play the entire set one after the other as the next song loads before the previous one has finished. *BreakThru Plus* offers an additional MIDI port to expand the number of MIDI channels to 32 (£169.95).

It's worth noting that a great demo version of *BreakThru* will be on ST Review's front cover next month!

**ST REVIEW COMMENT:** "BreakThru offers plenty for everyone who uses their ST for music, from the amateur to the trained musician. The sample playback facility is the best on offer on any ST sequencer."

★★★★★



*BreakThru* is Gajits' latest offering and includes a comprehensive sample replay facility, drum and score editors.

## CONCERTO

MICRODEAL • £39.95 • 0.5 MB • COLOUR/MONO

**IN BRIEF:** 'Power at the right price' may be Atari's motto, but it could equally be used for *Concerto*. It's a 24-track, pattern-based sequencer which offers an incredible number of features including graphic and score editing, a drum grid and an event list so that you can edit your performance in any way that you wish.

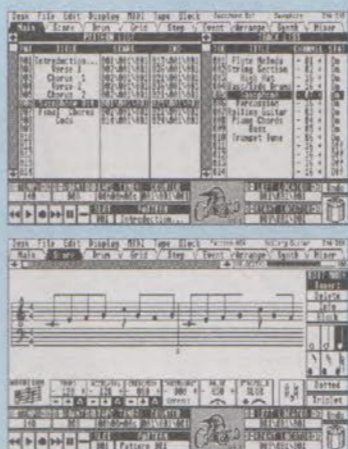
The MIDI Mixer lets you manipulate on-screen faders to change aspects of the MIDI performance such as volume, modulation and stereo pan position.

Two separate programs are included. The first converts *Concerto* song files to MIDI Files for movement between other sequencers, and while it's often very slow, it certainly works well.

Secondly, there's a basic sampling program which enables you to use samples within *Concerto*, although only one sample can play at a time. At least it functions fully on a 520 ST.

**ST REVIEW COMMENT:** "You get a lot for your money with *Concerto*; it's very flexible and bristling with functions. At less than £40, it's the perfect sequencer to get you started with music on the ST."

★★★★★



*Concerto* offers 24 tracks and a whole host of editors including Score, Event and Graphic.

## CREATOR SL

EMAGIC • SOUND TECHNOLOGY • £259 • 1 MB • MONO

**IN BRIEF:** *C-Lab* has recently changed its name to *EMagic* and for some reason this has resulted in a substantial decrease in its price.

*EMagic* is pattern-based with 100 patterns and up to 64 tracks per pattern. *Creator*, along with its score editing and printing brother *Notator*, is generally viewed as one of the two heavyweight sequencers on the ST.

With only two main methods for editing MIDI information (Event list and Matrix graphic editor), *Creator* is possibly undergunned against some of the opposition, but it more than makes up for this with other facilities; it has a very powerful transform function which allows you to convert MIDI information from one type to another, while the Realtime MIDI Generator (RMG) gives you 16 on-screen faders for realtime control of a MIDI performance.

Recently added is the HyperEdit page for superior visual editing.

There are also two add-ons. *ExPort* adds an extra three MIDI Outs; *Unitor-C* has two extra MIDI Outs and Ins and SMPTE timecode for syncing the sequencer to a tape recorder.

**ST REVIEW COMMENT:** "This is still the pattern-based sequencer against which others are compared. *Creator SL* has a very large following amongst the ST music fraternity but is possibly a little expensive when compared with other packages which offer similar facilities."

★★★★★

## CUBASE

STEINBERG • HARMAN AUDIO • £399 • 1 MB • MONO

**IN BRIEF:** A new distributor, a new version (3.0) and probably many new converts due to its highly flexible nature. Steinberg's *Cubase* is the other of the two heavyweights and differs from most other ST sequencers in that it's not pattern-based and so behaves more in the fashion of a tape recorder, albeit one with 64 tracks. However, parts of tracks can be grouped together and treated as patterns.

The main plus is the Arrange window from which an entire song can be viewed as a selection of parts which can then be moved around, cut in two, glued together, erased and so on by using the on-screen 'toolbox'.

*Cubase* has various editing screens including a piano-roll style Key edit, Event edit which lists all MIDI events, Drum Edit for creating rhythm parts and Score edit from which a score can be created, edited and printed out. Other facilities include a MIDI Mixer for

*This month, MIDI Monthly looks at all of the sequencing packages available for the ST...*



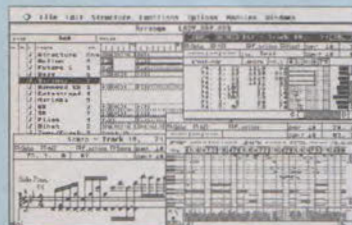
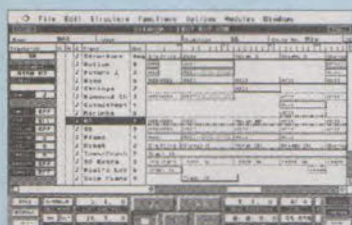
realtime control of MIDI messages and Logical Edit for converting one kind of MIDI message to another.

Various add-on packs exist including Midex which gives four MIDI Outs and two MIDI Ins, and Midex + which also has the benefit of having SMPTE time code.

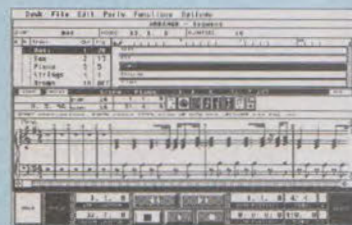
**Cubase Lite** (£99, 0.5 Mb, Mono) has the same arrange facilities but with only 16 tracks, a Score editor and printout facility. It's useful for educational purposes and the cheapest serious score printout package on the ST. **Cubeat** (£199, 1 Mb, Mono) is based on version 2 of **Cubase** but lacks the score edit/print out facilities and the MIDI Mixer. It probably won't be updated to version 3.

**ST REVIEW COMMENT:** "Cubase has certainly moved with the times. Version 3 is much faster and the scoring side has been completely redesigned. Relatively expensive, but a good professional product."

★★★★★



Now up to version 3.04, Cubase offers many facilities including various editing screens and score printing.



At £99, Cubase Lite offers 16 tracks, a Score editor and notation print out.

## SMPTETRACK GOLD

BAREFOOT SOFTWARE • ATLANTIC AUDIO • £465.30 • 1 MB • MONO/COLOUR

**IN BRIEF:** This is yet another sequencer that has achieved cult status. In other words, it's a little unusual and hasn't sold in enormous quantities!

The main strength of **SMPTETrack Gold** lies in its flexible nature and excellent timing characteristics. It offers 60 tracks, and has a powerful pattern facility which lets you can work as you wish rather than in a designated manner.

On offer are two editing screens; the Event List which shows every MIDI message and allows you to edit all aspects of them, and the Graphic screen which uses a piano-roll style display.

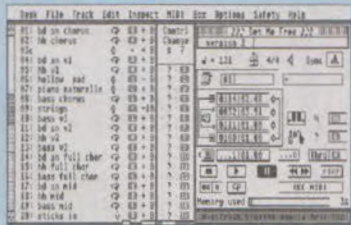
Included in the package is a SMPTE timecode hardware box. Bearing this in mind, the price is very reasonable. There's also a MIDI port expander called MIDIPlexer which gives an extra three MIDI Outs and a MIDI In.

The main drawback of **SMPTETrack Gold** is in the lack of realtime editing; with the exception of track delays and transposing, you have to stop the sequencer to carry out any editing. The advantage of this is that **SMPTETrack's** timing is excellent and so is a favourite of audio-visual people in the States where it's been responsible for creating oscar-winning music.

**EditTrack Gold** (£116.33, 1 Mb, Mono/Colour) is identical to **SMPTETrack Gold** in all respects except that the SMPTE box is not included.

**ST REVIEW COMMENT:** While **SMPTETrack Gold** is rather expensive, the price includes the necessary hardware for synchronising to a tape recorder. **EditTrack Gold** is good value for money and certainly worth considering.

★★★★★



**SMPTETrack and EditTrack Gold** both offer the same basic facilities including 60 tracks, Graphic and Event editors and either linear or pattern-based operation.

**KCS OMEGA**  
DR.T • ZONE DISTRIBUTION  
• £299 • 1 MB • MONO/COLOUR

**IN BRIEF:** **KCS (Keyboard Controlled Sequencer)** was one of the first sequencers on the ST. In those

days it was unfriendly and unwieldy and was yet another cult program – that is until Dr.T decided to rewrite it as a standard GEM program at which point it took off.

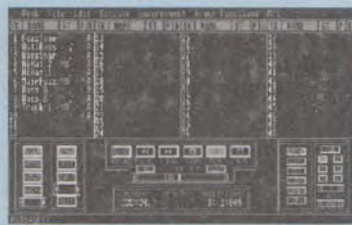
Offering 48 tracks, **KCS** is another very flexible sequencer which uses the custom Multi Program Environment (MPE) to allow you to have different parts of the program loaded when you need them. For instance, there's Quickscore, from which you can view your song as a score and print it out but not edit it. Tiger is the graphic editor which lets you view the MIDI information for each track and carry out edits, while Song Edit gives you an arrangement mode from which you can alter the structure of a song.

While **KCS** will work in one Megabyte of memory, it really needs two Megabytes if you want to get the most out of it.

Also available is Phantom, a small box which plugs into the serial port and provides an extra MIDI Out and SMPTE timecode. **Tiger Cub** (£99, 1 Mb, Colour/Mono) is a 24 track version which only has the graphic editor and QuickScore facilities.

**ST REVIEW COMMENT:** "By allowing you to load in, use and then dump parts of the program, **KCS** offers elements with better facilities than other sequencers which load the entire program into memory at once."

★★★★★



Dr.T's **KCS Omega** has modules for different parts of the program including Quickscore for score viewing and printing

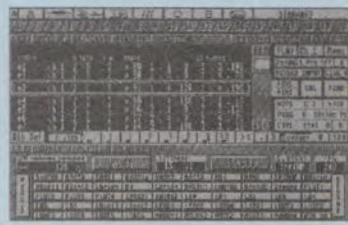
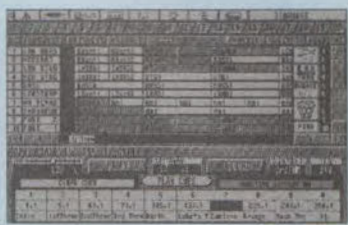
## MIDISTUDIO MASTER

LADBROKE COMPUTING • £99.99 • 1 MB • MONO RECOMMENDED

**IN BRIEF:** This is one of those unfortunate programs which never really took off. Although it offers 100 tracks, there's only an Event editor which means that you are editing in terms of numbers. It's too expensive for such a limited sequencer.

**ST REVIEW COMMENT:** "MIDIStudio Master may appeal to some of you who enjoy the challenge of working in terms of numbers rather than graphics."

★★★



Limited functionality and too high a price makes MIDIStudio Master a dubious choice of sequencer.

## NOTATOR SL EMAGIC • SOUND TECHNOLOGY • £329 • 1 MB • MONO

**IN BRIEF:** In many people's opinion, **Notator** is the best integrated sequencer and scoring package available on any computer and it's difficult to argue with this when musicians can effectively carry out music desktop publishing on it.

On the sequencer side, **Notator** is identical to **Creator**, which means it's pattern-based with 100 patterns and with a maximum 64 tracks per pattern. It has the same three methods for editing MIDI information (Event list, Matrix graphic editor and HyperEdit) along with other facilities such as a very powerful transform function which allows you to convert MIDI information from one format to another, and the Realtime MIDI Generator (RMG) which gives you 16 on-screen faders for realtime control of your MIDI performance.

The real power is in the Notation Editor which can score any number of tracks, allows you to edit and add notation elements from a vast library of symbols and output to every kind of printer from 9-pin dot matrix to laser.

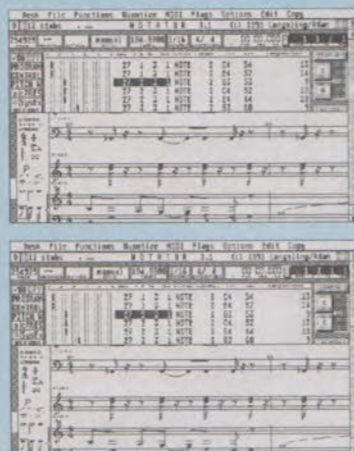
There are also two add-on modules, ExPort which adds an additional three MIDI Outs, Unitor-N has two extra MIDI Outs and Ins and a SMPTE timecode unit for syncing the sequencer to a tape recorder.

**Notator Alpha** (£219, 1 Mb, Mono) is an educational version of **Notator** with only 16 tracks, but it keeps all of the scoring options. However the sequencer side is severely limited, which is down-point at this price.

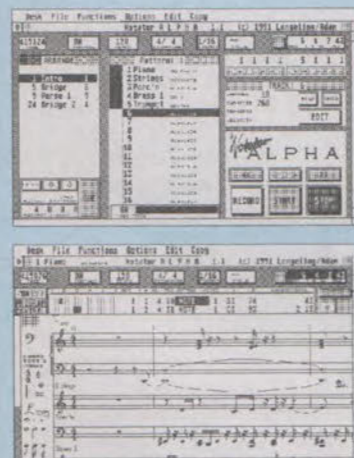


**ST REVIEW COMMENT:** "For musicians who wish to edit solely with a score, *Notator* is in a field of its own. The pattern-based structure suits people who are happy programming on a drum machine and it's easy to use."

★★★★★



*Notator is an excellent integrated sequencing and scoring package.*



*For educational purposes, Notator Alpha is well worth considering.*

## RAVE THE DIGITAL MUSE • SOFTWARE BUSINESS • £50 • 0.5 MB • COLOUR

**IN BRIEF:** *Rave* appears to be a cut-down version of *Virtuoso* and *Prodigy* from the same company, but has a feature which neither of the others offer – sample playback.

In fact, it's a little unfair to call it a cut-down version, because the removal of functions is intentional for more than just a cost-cutting exercise. By creating an easy-to-use 32 track sequencer, *Rave* is intended for people wishing to get involved in computers and music for the first time as well as for schools and colleges.

By making *Rave* modular, so that parts of the program load only when you need them, it runs happily on a 520.

On the facility side, *Rave* includes a Score editor and print out facility and an Event List editor. Up to two

samples can be played at the same time which means that you can put together a basic sampled drum kit.

**ST REVIEW COMMENT:** "If you're looking to get into music on your ST for the first time and only want to pay £50, *Rave* is worth a look at. It's easy to use, but lacking in functions against *Concerto*. Then again, don't just take my word – see the full review here next month."

★★★★★



*Rave has been created to intentionally limit the number of choices you have to make.*

## REALTIME DR.T • ZONE DISTRIBUTION • £129 • 0.5 MB • COLOUR/MONO

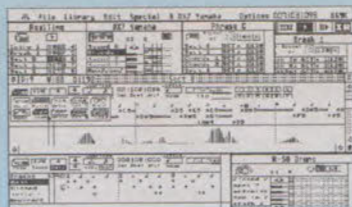
**IN BRIEF:** Concoct an editing page which is both graphic and number based, with detailed editing of every MIDI event from one dialogue box. Make the program small enough to give 600 Kbytes free on a standard 1040 ST. Which results in one of the most powerful sequencing programs on the ST whose sales never took off! That's *RealTime*.

With the number of tracks limited only by the amount of memory available, *RealTime* is viewed as being a joy by those who have chosen to use it. The representation of the music on-screen is very compact with a single graphic editing screen giving you all information about a MIDI event, something which usually takes at least two screens on most other sequencers.

For some reason, *RealTime* never took off although if you've ever tried it and liked it, the chances are that you are still using it! Also available is *Phantom*, a small box which plugs into the serial port and provides an extra MIDI Out and SMPTE timecode.

**ST REVIEW COMMENT:** "Currently being sold off cheaply as the program has been discontinued which means no more updates. That said, it's well worth a look."

★★★★★



*While being a bit of an oddball of a sequencer, RealTime is functionally powerful and includes an excellent main editing page.*

## SEQUENCER ONE PLUS

GAJITS MUSIC SOFTWARE  
• £39.95 UPGRADE • 0.5 MB • COLOUR/MONO

**IN BRIEF:** The predecessor to *BreakThru*, *Sequencer One Plus* has many of the features from its successor. It's a linear sequencer offering 32 tracks and various editing screens including an ingenious graphic editor, which uses diamond shapes that allow you access a aspects attributes of a MIDI event, along with a Tempo map which lets you draw your tempo changes in.

The sample playback facility of *Sequencer One Plus* allows you to use the ST's monitor or the stereo outputs from an STE. Up to four samples can play at the same time which practically allows you to record a song without using MIDI.

The Jukebox facility lets you save an 'album' of songs, set the gap between playback and play the entire set one after the other as the next song loads before the previous one has finished.

Support is included for ModemMIDI which gives you an extra MIDI Out via the ST's modem port on the rear of the computer.

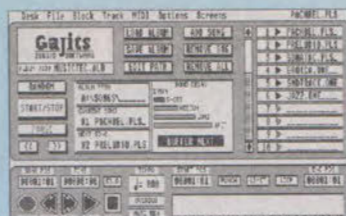
*Sequencer One* (£19.95, 0.5 Mb, Colour/Mono) was given away on another ST mag's front cover. Anyone with this can upgrade to *Sequencer One Plus* for £39.95, although only a few copies remain.

**ST REVIEW COMMENT:** "*Sequencer One* is arguably the most popular ST sequencer of all time. If you want a sample playback facility and *BreakThru* is outside of your budget, *Sequencer One Plus* is well worth considering."

★★★★★



*Sequencer One was the first of the Gajits sequencers which was followed by...*



*Sequencer One Plus... which added sample playback, a new visual editing page and a jukebox facility.*

## STARTRACK GEERDES • NEWTRONIC • £149 • 1 MB • MONO

**IN BRIEF:** This is a modular sequencer which needs between two and four Megabytes of memory for all modules which include graphic editing.

*StarTrack* is based around TimeTech's MIDIShare, which gives a work environment that allows you to switch between programs and share information between them. The only problem is that only a few programs have to be written to support MIDIShare.

The power of *StarTrack* is in the way that you can select which modules are used and so control the design of the screen layout. Included within the list of modules is an Event List, Graphic Editor,

## PATTERN VS LINEAR

There are two main ways that a sequencer can work. The first is in the same manner as a drum machine where each section of a song is encased within its own pattern. So pattern one might be the intro, pattern two could be the first verse, pattern three the first chorus and so on. Such sequencers will have a number of tracks per pattern, where each track holds the information for a particular instrument. Track one might be bass drum, track two snare drum, track three bass and so on. By chaining together patterns, you effectively construct a song.

The second method is similar to a tape recorder – linear, or track-based where each instrument has its own track and a song is built up by recording sections of each track. Again, most sequencers offer the facility to select part of a track, copy it and paste it in further along the track.

Which method is better? Neither. They are simply different. The one you choose is down to how you prefer to work.



## DISTRIBUTORS

Barefoot Software:  
Atlantic Audio, 2 Manor  
Gardens, London N7 6JY  
Tel: 071 272 8944 X248.  
Fax: 071 272 9167

Desert Software:  
Desert Software, PO Box 123,  
St. Helens, Merseyside WA9  
5LD  
Tel: 051 430 7400  
Fax: 051 430 7400

Gajits Music Software:  
Gajits Music Software, Newstar  
Technology Ltd, I-Mex House,  
40 Princess Street, Manchester  
M1 6DE  
Tel: 061 236 2515  
Fax: 061 236 4044

Steinberg:  
Harman Audio, Mill Street,  
Slough, Berks SL2 5DD  
Tel: 0753 576911  
Fax: 0753 554550

Hollis Research:  
Folma House, Exbury,  
Hampshire SO4 1AH  
Tel: 0703 891797  
Fax: 0703 891797

Ladbroke Computing:  
Ladbroke Computing  
International, 33 Ormskirk  
Road, Preston, Lancs PR1 2QP  
Tel: 0772 203166  
Fax: 0772 561071

Microdeal:  
Microdeal Ltd, PO Box 68, St  
Austell, Cornwall PL25 4YB  
Tel: 0726 68020  
Fax: 0726 69692

Geerdes:  
Newtronic Ltd, 62B Manor  
Avenue, London SE4 1TE  
Tel: 081 691 1087  
Fax: 081 691 1087

EMagic  
Sound Technology plc,  
Letchworth Point, Letchworth,  
SG6 1ND  
Tel: 0462 480000  
Fax: 0462 480800

The Digital Muse:  
The Software Business,  
Cromwell Business Centre,  
New Road, St Ives, Huntingdon,  
Cambs PE17 4BG.  
Tel: 0480 496497  
Fax: 0480 495605

Dr. T:  
Zone Distribution, Unit 6/70  
Eurolink Business Centre, 49  
Effra Road, London SW2 1BZ  
Tel: 071 738 5444  
Fax: 071 924 0950

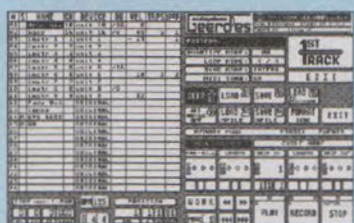
Arrangement page for re-ordering your song, a Drum grid editor and various other editors dedicated to specific synths. Included in the latter is a Roland GS editor.

The number of tracks is limited only by your ST's memory and a MultiPort is available which gives you an extra eight MIDI Outs.

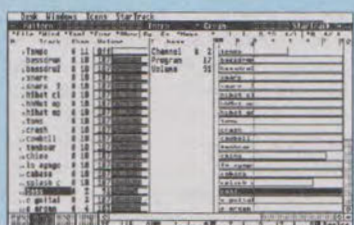
The predecessor to StarTrack was **1stTrack** (£29, 0.5 Mb, Mono), which is a 24 track, entry-level program with only an Event editor. Shame it's mono only.

**ST REVIEW COMMENT:** "The power of StarTrack is unquestionable, but the support for the program is limited at present. Possibly one to keep your eyes on."

★ ★ ★



*1stTrack is cheap, but with limited features and it only runs in mono.*



*Interesting design and potentially very powerful, StarTrack currently has only limited support.*

## TRACKMAN

HOLLIS RESEARCH • £99.95  
• 0.5 MB • COLOUR/MONO

**IN BRIEF:** John Hollis of Hollis Research liked an old drum machine of his so much, he bought the company!

Seriously, **Trackman** is based on a now defunct drum machine and so is pattern-based with up to 32 tracks per pattern.

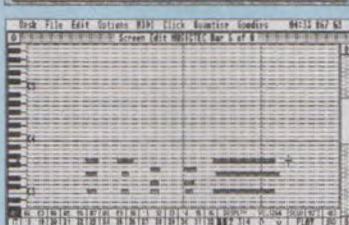
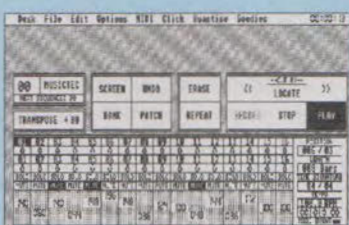
The Arrangement mode allows you to create a song by placing patterns in the order that you wish while the Graphic editor uses a piano-roll style screen.

There are two hardware add-ons, the Auxiliary port which plugs into the ST's modem port and gives an extra 16 MIDI channels and the Assignable Footswitch which uses the joystick port to let you carry out various functions such as entering record hands-free.

Hollis Research has a number of demo disks available free of charge. To receive one, just send a stamped-addressed envelope to them at the address shown in the Distributors' list on the left.

**ST REVIEW COMMENT:** It lacks bells and whistles, but is one of the easiest pattern-based sequencers to use and is very stable."

★ ★ ★



*Purely a pattern-based sequencer, Trackman is easy to use and has a good graphic editor.*

## VIRTUOSO

THE DIGITAL MUSE •  
SOFTWARE BUSINESS •  
£305 • 0.5 MB • MONO

**IN BRIEF:** When **Virtuoso** was launched some years ago, it was hailed as one of the great sequencer breakthroughs in that it offered flexibility - and a non-standard graphics interface.

By the time the programmers appreciated that a conversion to the standard GEM-style of program was necessary, the damage had, unfortunately, already been done, mainly due to the lack of program stability and sales.

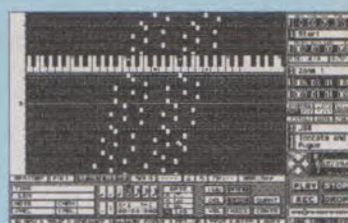
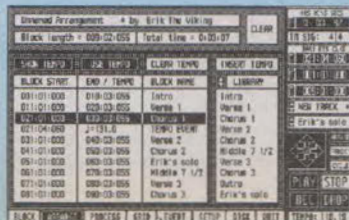
That said, **Virtuoso** offers 99 tracks, higher resolution than any other sequencer on the ST and an excellent piano-roll graphic editor with a horizontal keyboard. Also included is a Score editor and print out, an Event editor and an on-board Help page.

An extra MIDI Out is provided by ModemMIDI which plugs into the modem port on the rear of the ST.

Prodigy (£135, 0.5 Mb, Mono/Colour) is essentially a cut-down version with only 32 tracks and an optional Score module (costing £40).

**ST REVIEW COMMENT:** "While **Virtuoso** is slick and fast to work with, it's a little over-priced. However, **Prodigy** is worth a look."

★ ★ ★



*Prodigy and Virtuoso are very similar in design, differences being a reduction in the number of tracks and an optional Score module.*

## VIVACE

DESERT SOFTWARE • £199  
• 1 MB • MONO

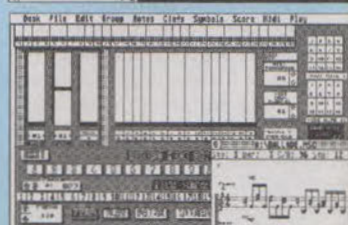
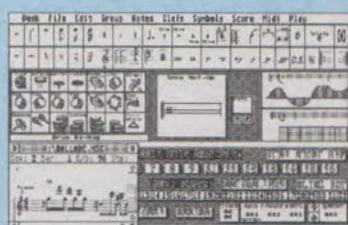
**IN BRIEF:** It's difficult to know how to describe **Vivace**. It's predominantly a visual sequencer with 81 tracks, with the odd number coming from the fact that different types of information are kept on separate tracks.

There's a Score editor which includes a bar-graph approach for changing pitch and duration while the MIDI Mixer has 16 volume sliders (one for each MIDI channel), three general purpose sliders, 32 mute buttons and 32 meters to graphically show what is happening on each of the tracks. Pitch bend and MIDI Control Changes can also be altered visually.

The big problem is in the resolution of the program. **Vivace** is essentially a step-time program and so will only suit those who are endeavouring to create a score but also want control over the MIDI events. Even then, it has no score print out option. As such, it has a very small market appeal.

**ST REVIEW COMMENT:** "Another ST oddball, probably with sales to match."

★



*Vivace has some interesting ideas and is easy to work with but can't print out a score and is not suitable for real time recording.*



# BUYERS GUIDE

## SEQUENCERS AT A GLANCE

*You've read the reviews, now see what sequencer is right for you...*

| Name                | Price (£) | Manufacturer          | Tracks    | Memory | Screen | Event | Arrange | Graphic | Drum | Score | Print? | MIDI File? |
|---------------------|-----------|-----------------------|-----------|--------|--------|-------|---------|---------|------|-------|--------|------------|
| 1stTrack            | £29.00    | Geerdes               | 24        | 0.5 Mb | M      | Y     | N       | N       | N    | N     | N      | R/W        |
| Breakthru           | £129.95   | Gajits Music Software | 64        | 1 Mb   | C/M    | N     | Y       | Y       | Y    | Y     | N      | R/W        |
| Concerto            | £39.95    | Microdeal             | 24        | 0.5 Mb | C/M    | Y     | Y       | Y       | Y    | Y     | N      | R/W        |
| Creator SL          | £259      | EMagic                | 64        | 1 Mb   | M      | Y     | Y       | Y       | Y    | N     | N      | R/W        |
| Cubase              | £399      | Steinberg             | 64        | 1 Mb   | M      | Y     | Y       | Y       | Y    | Y     | Y      | R/W        |
| Cubase Lite         | £99       | Steinberg             | 16        | 0.5 Mb | M      | N     | Y       | N       | N    | Y     | Y      | R/W        |
| Cubeat              | £199      | Steinberg             | 64        | 1 Mb   | M      | Y     | Y       | Y       | Y    | N     | N      | R/W        |
| EditTrack Gold      | £116.33   | Barefoot Software     | 60        | 1 Mb   | C/M    | Y     | Y       | Y       | N    | N     | N      | R/W        |
| KCS Omega           | £299      | Dr. T                 | 48        | 1 Mb   | C/M    | Y     | Y       | Y       | N    | N     | Y      | R/W        |
| MIDIStudio Junior   | N/A       | Ladbroke Computing    | 20        | 0.5 Mb | C/M    | Y     | Y       | N       | N    | N     | N      | N          |
| MIDIStudio Master   | £99.99    | Ladbroke Computing    | 100       | 1 Mb   | C/M    | Y     | Y       | N       | N    | N     | N      | R/W        |
| Multitude Pro       | TBA       | Oktal                 | 256       | 1 Mb   | TBA    | Y     | Y       | Y       | Y    | N     | N      | R/W        |
| Multitude Pro/Score | TBA       | Oktal                 | 256       | 2 Mb   | TBA    | Y     | Y       | Y       | Y    | Y     | Y      | R/W        |
| Notator Alpha       | £219      | EMagic                | 16        | 1 Mb   | M      | Y     | Y       | Y       | N    | Y     | Y      | R/W        |
| Notator SL          | £329      | EMagic                | 64        | 1 MB   | M      | Y     | Y       | Y       | Y    | Y     | Y      | R/W        |
| Prodigy             | £135      | The Digital Muse      | 32        | 0.5 Mb | C/M    | Y     | Y       | Y       | N    | Y     | Y      | R/W        |
| Rave                | £50       | The Digital Muse      | 32        | 0.5 Mb | M/C    | Y     | N       | N       | N    | Y     | Y      | R/W        |
| Realtime            | £129      | Dr. T                 | Unlimited | 0.5 Mb | C/M    | Y     | Y       | Y       | N    | N     | N      | R/W        |
| Sequencer One       | see text  | Gajits Music Software | 32        | 0.5 Mb | C/M    | N     | Y       | Y       | N    | N     | N      | R/W        |
| Sequencer One Plus  | £129.95   | Gajits Music Software | 32        | 0.5 Mb | C/M    | N     | Y       | Y       | N    | N     | N      | R/W        |
| SMPTETrack Gold     | £465.30   | Barefoot Software     | 60        | 1 Mb   | C/M    | Y     | Y       | Y       | N    | N     | N      | R/W        |
| StarTrack           | £149      | Geerdes               | Unlimited | 1 Mb   | M      | Y     | Y       | Y       | Y    | N     | N      | R/W        |
| Tiger Cub           | £99       | Dr. T                 | 24        | 1 Mb   | C/M    | N     | N       | Y       | N    | N     | Y      | R/W        |
| Trackman II         | £99.95    | Hollis Research       | 32        | 0.5 Mb | C/M    | N     | Y       | Y       | N    | N     | N      | W          |
| Virtuoso            | £305      | The Digital Muse      | 99        | 0.5 Mb | M      | Y     | Y       | Y       | N    | Y     | Y      | R/W        |
| Vivace              | £199      | Desert Software       | 81        | 1 Mb   | M      | N     | N       | N       | N    | Y     | N      | R/W        |

## KEY TO TERMS USED IN THE BUYERS GUIDE

**Tracks:** The number of tracks can usually be compared with those of a multi-track tape recorder.

**Memory requirements:** Sequencers will work with the stated minimum memory. Extra memory may be necessary to ensure that facilities aren't limited or song sizes restricted.

**Editors:** Graphic editors are usually of the 'piano roll' style with either a vertical or horizontal on-screen keyboard. A Drum editor usually means one with step-time input but with no interest in the length of the note. Arrangement means that a song can be recorded as a group of phrases and then re-ordered. If a sequencer only offers a copy and paste facility, this does not count as the ability to re-arrange a song.

**MIDI File Read/Write:** Most sequencers can import and export songs in MIDI File format for loading into other programs.



# BUSINESS TO BUSINESS

*We recently looked at setting up your own PD library. To achieve success you'll need some business software. Laura Taylor takes a look at what's on offer. . .*



There are three main types of software that you will need for your business: a word processor, a database and an accounts package. **ST Writer Elite** is probably one of the best word processors in the public domain. It is a very easy to learn package with many different features and costs only £1.50 from most PD libraries.

Once loaded you are presented with a menu, giving options to create, delete, edit, load or save a file, format a disk and even transform the colours (either black on white or white on black).

If you want to delete a block of text rather than just keeping your finger on the delete key and either deleting the wrong way or deleting too much text, there is a block option. By using this you just mark the beginning of the text to be deleted and the end, the text then becomes highlighted and by the touch of a button it can be deleted, moved or copied to another part of the document.

You can set up your documents with headers and footers. These are standard pieces of text put in at the top and bottom of each page, on every page.

It caters for subscript and superscript, allowing you to deal with mathematical formulas and so on. You can set up and use tab stops as much as you want: these are very useful for columns or tables.

You can pep up documents by centering text, putting headings in bold and making the rest of the text italics. You can chain files together so that they print as one, and the mail-merge facility is compatible with most databases, although **DB Master** is recommended.

You have complete control over your documents, being able to modify the bottom margin, paragraph spacing, print style, paragraph indents, justification, left and right margins, line spacing, top margin and page length. There is also a very useful UNDO

key, so that if the key is pressed it will restore the last line of text or block of text deleted.

## DATABASES

**Fastbase** is "the most powerful, flexible, database for the Atari ST that incorporates features previously only found in expensive commercial offerings", at least that's what the manual states, and it's not far wrong.

The page has four different types of graphic formats, can hold multiple databases in memory, sophisticated searches, and works in all three resolutions.

You start by creating your database. Decide which fields you require - name, address, comment etc. After setting up your database, files can be added, deleted or amended whenever you wish. This is not, however, an easy task and can be time-consuming - it's a good idea to draft out your database first and make sure you have it right.

Each field can be up to 1000 characters in length and the line will scroll along as required. There is a host of graphics icons in the toolbox which can be used as an alternative to many of the menu functions available.

Once a database has been created, fields can be moved around the screen until their desired position is found. There is a very good search facility as well, which can search through a number of database files to find the record you are looking for.

You can import and export data between databases, which can be very useful, especially if you are upgrading to **Fastbase** from an old database system.

There is a registration fee of £20.00, which gives you up to 200 fields per database and this is limited only by the amount of memory available on your ST. You also receive a professionally produced 32-page manual.

## ACCOUNTABILITY

For the small business user, **Accountability** is the best accounting package available. It is Shareware and you can register for £5. The main aim of the program is to keep your financial records under control. It can hold details for up to 10 accounts in any one disk file, but there is no limit on the number of files you keep, though most small businesses should only need one.

In each file you can have 2000 transactions. These can be split between the 10 files. If you only need one file then you can accumulate the 2000 transactions to that one file and forget about the other nine.

Transactions can be repeated weekly, quarterly, every six months or every year. There is also a feature to print out statements to screen or printer.

The main screen of **Accountability** consists of three parts - at the top is a Menu Line and the other part is split in two to form a Display Screen and the Input Window. The display screen shows the entries which make up your accounts and the input window is where you are asked for information including dates, amounts, descriptions and codes. Once entered you can modify all your data entries simply by clicking with the mouse and editing. Nothing could be simpler.

## REGULAR TRANSACTIONS

A useful function is regular transactions. These can be either permanent, like mortgage payments or salaries or temporary like paying of a loan, you can even set it to end when the loan is paid off. It is very simple to enter and also very useful for helping to keep track of your accounts.

After your data has been fed into your account you can produce monthly or weekly statements, to keep you up to date with your bank balance.



# PREMIER MAIL ORDER

Titles marked \* are not yet available and will be sent on day of release. Next day service available - Ring for details.

Please send cheque/PO/Access/Visa No. and expiry date to:

**Dept ST11, Trybridge Ltd., 10 Tinkler Side, Basildon, Essex, SS14 1LE. Please make cheques payable to Premier Mail Order.**

Please state make and model of computer when ordering. P&P inc. UK on orders over £5.00. Less than £5.00 and Europe add £1.00 per item. Elsewhere please add £3.00 per item for Airmail. These offers are available Mail order only. Telephone orders: Mon-Fri 9am-7pm. Saturday 10am-4pm. Open Sundays 10am - 4pm Fax orders : 0268 271173. Tel Orders : 0268 271172

| GAME                               | PRICE |
|------------------------------------|-------|
| 2 Hot To Handle.....               | 16.99 |
| 3D Construction Kit.....           | 26.99 |
| 4 Wheel Drive.....                 | 19.99 |
| Addams Family.....                 | 16.99 |
| AirBus.....                        | 22.99 |
| Air & Sea Supremacy.....           | 19.99 |
| Afterburner.....                   | 6.99  |
| Alien 3*.....                      | 19.99 |
| Altered Beast.....                 | 6.99  |
| Another World.....                 | 19.99 |
| A.P.B.....                         | 6.99  |
| Arkanoid 2.....                    | 6.99  |
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| Bubble Bobble.....                 | 6.99  |
| Cabel.....                         | 6.99  |
| California Games 2.....            | 16.99 |
| Campaign *.....                    | 22.99 |
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| Champ Manager.....                 | 16.99 |
| Chaos Engine *.....                | 16.99 |
| Chase HQ.....                      | 6.99  |
| Chuck Rock 2*.....                 | 16.99 |
| Continental Circus.....            | 8.99  |
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| Crazy Cars 3.....                  | 16.99 |
| Cruise for a Corpse.....           | 19.99 |
| Curse of Enchantia (1 Meg)*.....   | 22.99 |
| Cyberball.....                     | 6.99  |
| Daley Thompson Challenge.....      | 6.99  |
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| Deliverance.....                   | 16.99 |
| Deluxe Paint.....                  | 39.99 |
| Demonsgate *.....                  | 22.99 |
| Dizzy Collection.....              | 16.99 |
| Double Dragon.....                 | 8.99  |
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| Double Dragon 3.....               | 16.99 |
| Dragon Ninja.....                  | 6.99  |
| Dune*.....                         | 19.99 |
| ELF.....                           | 16.99 |
| Elvira 2 (1 Meg).....              | 24.99 |
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| Euro Football Champ.....           | 16.99 |
| Eye of the Storm *.....            | 19.99 |
| F15 Strike Eagle 2.....            | 22.99 |
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| Flight of the Intruder.....        | 14.99 |
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| Ghostbusters 2.....                | 6.99  |
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| Goblins.....                       | 16.99 |
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| Gods.....                          | 16.99 |
| Graham Gooch*.....                 | 19.99 |
| Graham Taylor.....                 | 16.99 |
| Guy Spy *.....                     | 26.99 |
| Hard Driven.....                   | 6.99  |

| GAME                             | PRICE |
|----------------------------------|-------|
| Harlequin.....                   | 16.99 |
| Head Over Heels.....             | 6.99  |
| Heimdall (1 Meg).....            | 19.99 |
| Heroquest.....                   | 16.99 |
| Hero Quest Data.....             | 9.99  |
| Hitchhikers Guide.....           | 7.99  |
| Hong Kong Fuyee.....             | 5.99  |
| Hook.....                        | 16.99 |
| Hudson Hawk.....                 | 16.99 |
| Hunter.....                      | 19.99 |
| IK+.....                         | 6.99  |
| Immortal (1 meg).....            | 8.99  |
| Indy Jones Atlantis-Action*..... | 19.99 |
| Int Spots Challenge.....         | 16.99 |
| Ishar*.....                      | 19.99 |
| Jaguar XJ220 (1 Meg)*.....       | 16.99 |
| Jimmy Whites Snooker.....        | 19.99 |
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**Customisation.** The game will allow you to take the European nation of your choice and you will be allocated an initial squad of 16 players. You can introduce a further 34 players, making 50 in all, whose names and skills ( but not levels) You can define yourself. These players are introduced gradually as you discover the weaknesses in your squad and also to create the balance of skills that match your style of play. The original 16 players can be defined in the same way using the EDIT program ( free with the game ) if you wish as well as the teams that will make up the opposition.

With Soccer Supremo the soccer management game comes of age with a match display that not only gives considerable information about the performance of players and team, not only allows the major tactical changes the state of the game demands, but is also entertaining and even exciting. The childish number juggling game has been replaced by an intelligent select-the-team and watch-the-match simulation. Oh.....yes.. Italy equalised but England won on penalties.....

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Players will age and teams will fade (a player will last about 6 seasons), but you will stay and rebuild....

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| ST | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|    | £19.95                   | £19.95                   | £19.95                   |

Head Coach works with ALL STs/monitors  
SS and DIV 1 require colour monitor/TV.



# DOWN ON THE WIRE

This month Mark Baines takes a look at the software available to ST modem owners...



The most important aspect of comms is information facilities such as electronic mail where knowledge, and very often useful advice, can be exchanged. Bulletin boards and conference systems such as CompuServe also contain plenty of public domain and shareware software

## WHAT'S OUT THERE

The public domain software available via your modem is similar to that distributed by PD libraries, but is usually more up-to-date with new programs appearing weeks in advance. Supplemental data files containing icons, music, images, fonts, printer drivers, databases and program update patches can also be downloaded and added to existing software.

Most users often neglect text files, which are sometimes stored in a separate part of the database. These usually contain important information on many aspects of computing such as setting up software, help on using bulletin boards, reviews and hints and tips. Some specialist boards, such as Starbase One (071 733 3992) the premier astronomy BBS, are practically on-line encyclopaedias.

The places to look are Files or Download areas in your host's Main Menu system. New users may not have sufficient status on some systems to be able to download files. On free systems, such as

| File                      | Block  | Go To     | Text   | Word Wrap                                                  | Exit        |
|---------------------------|--------|-----------|--------|------------------------------------------------------------|-------------|
| C:\M1 L:1693              |        |           |        |                                                            |             |
| File: STALL (LST)         |        |           |        |                                                            | Last: 03235 |
| *****                     |        |           |        |                                                            |             |
| 4. ST Games & Educational |        |           |        |                                                            | 00.         |
| *****                     |        |           |        |                                                            |             |
| POMBO.3.LZH               | 21188  | 27 Nov 92 | [0.50] | Full colour game of chess.                                 |             |
| PSTLIFE.LZH               | 15394  | 15 Nov 92 | [1.00] | 640x480 german life prog.very fast mono only.              |             |
| PP_GAMEB.PRG              | 79734  | 14 Nov 92 | [1.50] | Two GameBoy games from the Pompey.                         |             |
| LD.11.91.LZH              | 104167 | 31 Oct 92 | [1.40] | Cold Revenge Multi Computer Starship.                      |             |
| SHIFT.ARJ                 | 81583  | 19 Oct 92 | [0.50] | Monochrome Game....                                        |             |
| LOCKFALL.ARJ              | 17812  | 19 Oct 92 | [0.50] | Boulder Dash (Colour) original, good.                      |             |
| PLAX.1.ARJ                | 59651  | 19 Oct 92 | [0.50] | Skilful colour game. Battle of the.                        |             |
| PEKING.ARJ                | 99532  | 19 Oct 92 | [1.50] | Ma Jong /Shanghai game (mono/colour).                      |             |
| COMBAT.ARJ                | 103896 | 19 Oct 92 | [1.50] | "COMBAT" 16Bit Color-Version of the old Atari-VCS Classic! |             |
| FULLTRON.LZH              | 10595  | 11 Oct 92 | [2.50] | Fullscreen lightcycles game for up to 4 players.           |             |

Within Freeze Dried editor examining a downloaded files list.

|                                                               |       |
|---------------------------------------------------------------|-------|
| ZMODEM file transfer                                          | E1.05 |
| Receiving file "remaltip.txt" 3796 bytes                      |       |
| File created on Sun Nov 22 17:25:50 1992                      |       |
| Bytes transferred CPS: now / avg Time left                    |       |
| 2040 ( 53%) 230 231 00:00:07                                  |       |
| File(s) to download: remaltip.txt                             |       |
| One moment..                                                  |       |
| RMALTIP.TXT 3796 bytes                                        |       |
| (S)tart transfer, (L)ogoff after transfer, (R)port: S         |       |
| Files: 1                                                      |       |
| Size: 3k                                                      |       |
| Time: 0 minutes at 2400 BPS                                   |       |
| Start receiving now, or press <Ctrl-X> several times to abort |       |
| ***** Z-Modem Batch Receive *****                             |       |
| Batch Rec Path: G:\FZOSTERN\DMC_REP\                          |       |
| Passing Params: -Z -S -R -C -R40                              |       |
| To: XYZ*.TTP                                                  |       |

Downloading a text file with Zmodem from within Freeze Dried.

bulletin boards, some sysops don't tolerate 'grabbers' who don't give something in return and have installed a scheme whereby the number of files you can download depends on the number you upload. This is your download ratio. Some sysops also emphasise the importance of contributing to the messaging areas and on these systems your download ratio is linked to the number of messages you write.

Whichever system is installed, the success of bulletin boards and conferencing systems depends on the amount of messages and files sent to it. Don't be tempted to upload any old rubbish, a file you know the system already has or the DESKTOP.INF file. You will be found out and incur the sysop's wrath. Send one of your own programs, a text file of hints and tips, join the conferences and contribute to the conversations.

## COST CUTTING

Downloading files also costs money, although it can be cheaper than buying them from a PD library. The cost depends on three factors:

1. The call rate. Mercury is substantially cheaper on long distances.
2. The size of the file.
3. The speed of the modem.

If you have a 2400 bps modem and you want a large file or are calling long distance then it might be cheaper to get the program from a PD library. Considering what else you often get on PD disks, they are often better value. If you are lucky enough to have a 9600 or 14400

bps modem and are local to the board that you're using it will nearly always work out cheaper to get the software via your modem.

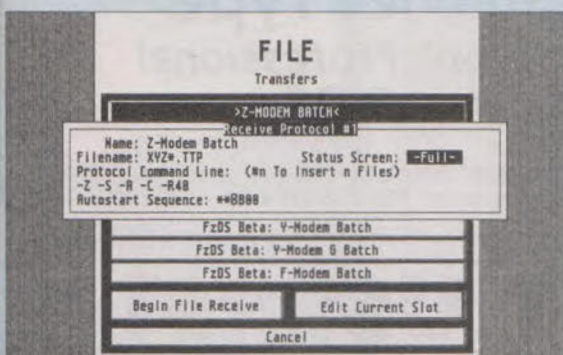
Naturally the less time you spend hooked to a board the cheaper it is for you. One handy tip is to quickly scroll through text files so they're downloaded to your terminal program's buffer. This way you can view them after you disconnect which saves your phone bill.

## PROTOCOL

Before you download a file you'll normally be asked for the correct protocol. If you're unsure you can check the options by entering '?' or 'help' at the prompt. If Zmodem or Jekyll are available you should opt for these. Zmodem is quicker than X or Ymodem and more reliable and flexible. If you have a fast modem with error correction then Fmodem or Ymodem-G are worth getting. On noisy lines and with long files, a good tip is to increase the number of errors that Zmodem will tolerate with the -Rn parameter, where 'n' is the number of errors, the default being 10.

If you have **Freeze Dried Terminal** you can employ its useful Auto-Start Sequence which presets the transfer protocol. When FzDT sees the host asking whether it is OK to send, it loads up the transfer program and starts the download automatically.

Do enjoy this aspect of comms but as one sysop commented, don't be a "pig at a trough". Do contribute, thank the sysop for his time, effort and money and watch that phone bill!



Freeze Dried transfer protocol set up for auto-start Zmodem.

## RATES AND DATA

Some approximate examples - all without data compression. All times are optimistic and charged at BT cheap rates. Such costs don't include the rest of the log-on time.

| File | Call rate | Speed | Approx. Time | Approx. Cost |
|------|-----------|-------|--------------|--------------|
| 50K  | Local     | 2400  | 223 secs     | £0.10        |
| 50K  | Long      | 2400  | 223 secs     | £0.30        |
| 50K  | Local     | 9600  | 56 secs      | £0.05        |
| 50K  | Long      | 9600  | 56 secs      | £0.10        |
| 200K | Local     | 2400  | 890 secs     | £0.25        |
| 200K | Long      | 2400  | 890 secs     | £1.33        |
| 200K | Local     | 9600  | 223 secs     | £0.10        |
| 200K | Long      | 9600  | 223 secs     | £0.30        |

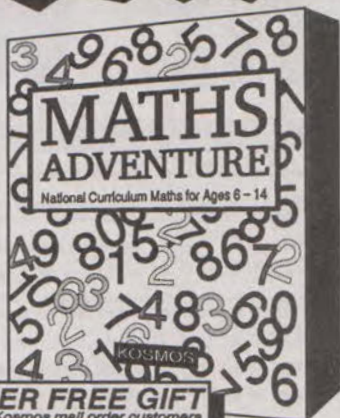


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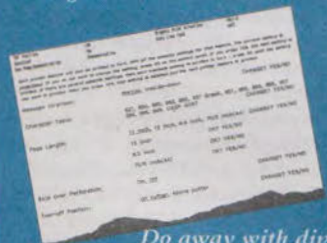
# WIN AN EPSON PRINTER!!

*Broke after Christmas? Never fear, ST Review once again brings you a real humdinger of a competition with two ultra-smart Epson printers up for grabs!*

## WIN AN EPSON LX-100 OR LQ-100 DOT MATRIX

### DEEPLY DIPPY

There are no dip switches on these printers. Instead there's a user friendly interface routine that goes through all of the settings in a logical manner, allowing you to set configure the printer without any hassle. Switching the printer on while holding one of the keys down will take you into the setup mode. All you then need to do is insert a sheet of paper and follow the instructions. When you've finished, the printer is set and you have a hard copy of the settings for future reference.



*Do away with dip switches.*

### HOW TO ENTER

To win a printer, read the reviews starting on page 42 and call the number below. Answer a few questions and a printer could be on its way to you.

**RULES:** This competition is only open to residents of mainland UK and no entries will be accepted from employees, relatives or friends of EMAP Images or Epson UK. The editor's decision is final and no correspondence will be entered into. Entry to the competition signifies acceptance of these rules.

Calls cost 48p per minute peak rate and 36p at all other times.

Epson has a reputation as one of the leading manufacturers of printers. The company's machines have become industry standards - so much so that all major software manufacturers include printer drivers that are specially compatible with Epson printer control codes. This makes its printers some of the most universal on the market.

The LX-100 is the new entry-level 9-pin dot matrix printer that offers up to 240 cps in draft mode and 48 cps in NLQ (Near Letter Quality) mode. It has three resident fonts as well as seven different print enhancements built in and comes complete with a tractor feeder for continuous paper. An optional 50-sheet cut sheet feeder allows complete versatility over the size of paper that you use. The graphics mode is capable of a resolution of 240 x 216 dots per inch (dpi). Not

only do they have all that going for them, but they can also be stood upright so that they take up hardly any room.

You can set the fonts, line/form feed, paper parking and even the dip switch settings from the front panel, making it an extremely easy printer to use. Of course, with the Epson name on the case, there are

no problems with compatibility. Retail price of the Epson LX-100 is £189 plus VAT.

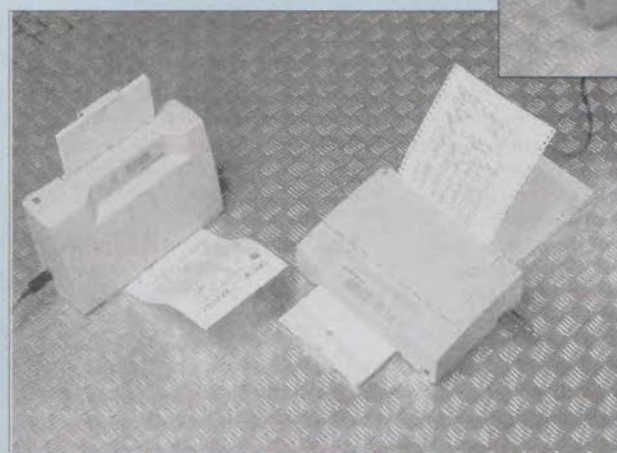
### LETTER QUALITY

The LQ-100 has all of the features of the LX-100 and more. It has five built-in type-faces and a printer control

*24-pin quality printing from the LQ-100.*



**WORTH £250!!!**



*The LX-100 offers 9-pin printing at a very affordable price.*

language called EscP2, which offers an impressive range of scalable fonts. The LQ-100 even comes with a 50-sheet cut sheet feeder as standard so you don't even have to constantly run backwards and forwards putting paper into it.

Again, the LQ-100 features the easy set-up menu replacing the dip switches and, with a print speed of up to 250 cps and a maximum resolution of 360 x 360 dpi, represents excellent value for money. The LQ-100 costs £245 plus VAT.

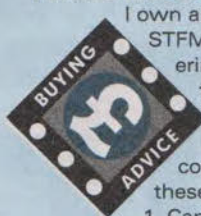
# COMPETITION HOTLINE 0839 500813



# ASK THE EXPERTS

*It may be the beginning of a New Year, with all its promises of fresh starts, but we still find ourselves confronted with problems. Well here's the place to sort them out. If there's anything about your ST that's giving you grief, write to us and, as ever, we'll do our best to help*

## FLYING FALCON



I own an Atari 520 STFM and I'm considering upgrading to the new Falcon when it comes out. Please could you answer these questions.

1. Can you use low resolution software on a VGA monitor?
2. Will *Panza Kick Boxing*, *Dungeon Master*, *Populous 2* and any of the new software work on the Falcon?
3. Will a Citizen 120D+ 9-pin dot matrix printer work on the new machine?
4. Will joysticks that work on the ST work on the Falcon (for example, Zipstick, Competition Pro)?
5. I have collected your magazine since issue one, will the cover disks work on the Falcon?

Thanks for your time and keep up the good work.

**Philip Wong, Chorley, Lancashire**

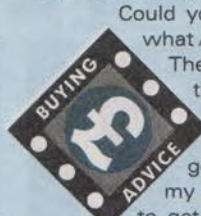
Firstly, let me state that the Falcon is not intended as a replacement for the ST. It is a totally new machine with new architecture and many new components and features.

Although some software will work with the Falcon, it is unlikely that many games will prove to be compatible with it. The problem is that the Falcon will run anything that was written within Atari's 'official programming guidelines', but many programs have calls to specific components in the ST and so won't run on anything else. Games will suffer most from this. It is therefore unlikely that many of the current ST games will run on the Falcon. A lot of the serious programs, especially high resolution programs are a lot closer to the Atari spec, though, so they should run. Keep an eye on these pages for more details. We'll be able to tell you more when we get a machine to play with. Your joysticks should work on the Falcon with no problems.

Printers are rarely machine specific, so you should have no problems with your Citizen as with any other printer. Most printers are Epson compatible, so drivers shouldn't be a problem either.

Because the cover disks contain programs from a variety of sources, some of them may well run on the Falcon, but we cannot say which ones at the moment.

## WHERE'S THE FALCON?



Could you please tell me what Atari is playing at? They tell everyone that the Falcon will be released in September. So I go away and sell my aging 520 STFM to get the new Falcon, only to be told that it won't be released until 1st March 1993!

Why? Has Atari had a rethink of the Falcon or is it not going to make it onto the retailers' shelves?

**Marc Gibb, Inverallochy, Aberdeenshire**

We're awaiting the Falcon as eagerly as you are, Marc, but they did NOT say that the machine would be available in September. What the aficionados at Atari did say was that the first Falcons were expected to be shipped at the end of September/beginning of October.

History tells us not to rely on shipping dates as there can be many reasons why product does not arrive when stated. The latest from Atari is that around 200 machines are in the hands of developers and the first 'enthusiast machines' are available in limited quantities. The 'consumer casing' machine, which will sell for £399 is due for release on the 1st March, so your information was only partially correct.

Atari does admit that there were a few small manufacturing problems with the Falcon which has delayed it a little. With about 180 developers working with the new medium, there should be plenty of software available for the computer.

## LEARNING THE LANGUAGE



I've had my Atari 520 STFM for two years now. I use it every day for DTP, word processing, databases and, of course, games. I've always wanted to have a go at creating my own games, so my question is, where do I start?

Will I have to take a course in computer programming or is there an easier method? I know nothing at all about programming, so I bought ST BASIC but cannot make head nor tail of it.

I hope you will be able to help. I've been buying ST Review for the last three months and I find it much more informative than my previous

magazine (I'll mention no names), so consider me an ardent reader.

**R Turner, Crook, Co. Durham**

The process of writing a game is not as simple as it may appear. You need a good understanding of the language you are programming in and an idea of what you want the program to do before you even go anywhere near a computer.

The first thing to decide is what type of game you want to create. If it's a fast shoot-'em-up, then it won't be very good in a slow language like uncompiled BASIC, for example. Probably the best languages to consider are HiSoft BASIC, GFA BASIC, C or 68000 assembly language. If you are writing instructions that the CPU understands directly, it will be faster than having to translate it into something that the 68000 will understand.

There are many elements involved in good programming. Sprites, graphics and sound have to be of a quality that people will want to pay money for, otherwise you might as well not start. For an example of a great idea put together well, take a look at *Lemmings* or *Dungeon Master*. Both have been around a little while and the latter has been imitated but never equalled. If you think you have the ability to compete with a game like that, we'd certainly like to see it!

Invest in a good programming package. Remember, if you found ST BASIC complicated, all of the others will be the same or even worse. Maybe you should consider STOS, as this will give you the grounding in program formats. Don't forget to plan your game on paper before you start.

## VIRAL INFECTION



I have four things to say.

Firstly, thank you very much for the **Butler James** utility on one of your cover disks. It told me that almost all of my disks were infected with two viruses. One was the Signum virus and the other it called the c't virus. Can you tell me anything about these? Fortunately, I don't think they've done any harm. Also two of my commercially-produced disks, *Lotus II* and *Alice in Wonderland*, are infected with the Signum virus. I have not disin-



# PRINTER PROBLEMS



We've had a number of letters outlining problems with printers. John Mallinson answers one in detail here...

## PAGESTREAM AND POSTSCRIPT

I currently use a 2.5 MB STFM running at 25 Mhz with Turbo 25. Attached to this is a Megafile 20 HD, an SM124 and a Canon BJ-10ex including sheetfeeder. The major software package I use is **Pagestream V2.2**.

What troubles me is the Postscript output to disk for setting at a bureau. Normally I print Postscript files, with crop marks, to an MS-DOS disk. Sometimes there are files with mechanical colour separations. Once I take it to a local bureau, the files are loaded into a Mac IIcx and 'translated' using **Font Downloader V4.0** (according to the bureau, a fairly standard utility). Then it is proofed onto a 600 dpi QMS 860 laser printer (or a 300 dpi Apple LaserWriter). So far this process has worked with 90 per cent success. The entire file will print out correctly. Only files with colour separations will not print. In fact, such files will not print on any of their three Postscript printers. If anything, this is an even more serious problem since it rules out any form of colour work. Once a successful proof has been made, the file is then sent to their Linotronic 200P. However, every single file will print out minus crop marks on two edges, that is, no crop marks on right-hand and bottom edges. This is despite having set a paper size which allows sufficient room for the crop marks to be printed (as the QMS output proves). This problem occurs regardless of the page size, the same results from business cards to A4 pages. **Composcript** will print the same files correctly, but only with the old PGS 2.1 Postscript driver.

The printers at the bureau will only accept files with the new driver in PGS 2.2.

A further, but less important question is, how do I stop **Pagestream** feeding a second sheet of paper through my BJ-10ex? No matter what dip-switch settings I use, with or without the sheetfeeder, it insists on feeding a second sheet of paper after printing a document.

I really hope you can provide a solution as I am having to contemplate an unwanted switch to either a Mac or a PC running **Pagemaker** or **Quark Xpress**. Since I want to use the ST for professional DTP, mechanical colour separations and Linotronic output is an absolute must.

**E Cheng, Crosland Moor, Huddersfield**

It's always encouraging to find people who are using their ST for serious ends, depressing to hear of the problems that ensue. What you are trying to do is, as you imply, more often tackled by people with much more expensive hardware, and software costing several times more than **PageStream** (I reckon that a Macintosh set-up for colour DTP would cost about £3,000, a PC kit and software rather less). Unless you really have a lot of spare cash to throw at your problems I would suggest working round them.

You present three problems: extra pages feeding out of your BJ-10, missing crop marks, and files that won't print at all. The first problem is down to the printer driver and, unless there is an update available, I guess you are stuck with it. The missing crop marks are odd. The most likely cause would be that you have set up your page size incorrectly. If this isn't the case then it would certainly help to be able to print or preview the pages at home with **CompoScript**. (**CompoScript** is an excellent program for viewing PostScript files on the ST and printing them to non-PostScript printers.) The problem of compatibility with files produced by the 2.2 **PageStream** driver is known, and is solved in **CompoScript** version 1.04 which you should be able to get from Compo Software (0480-891819.) Using the latest version of **CompoScript** to preview your files on screen may give you a better idea of where the problems lie - **Compo** also has a very good helpline.

Your colour problems are even more difficult. For the benefit of those who don't know (and I'm sure you do) there are two ways in which colour can be included in DTP documents: spot colour and process colour. Spot colour, as the name suggests, is the application of local areas of colour to logos, headlines, or other text you want to be prominent, tinted areas onto which you can run text for effect, and so on. If you actually want to include full colour pictures in your document (rather than getting the printer or repro house to put them in later) you are using process colour. One essential difference between the two is that spot

colour doesn't need a colour system at all. You can send your black and white file to the bureau for printing on its high resolution device, be it laser or Linotronic. This artwork can then be overlaid with tracing paper on which you indicate the coloured areas and what tints you want used by the printer. The whole process is black and white till the very last moment. It may sound a little primitive, but a lot of room for error is excluded, and very sophisticated results can be obtained - for this reason it's still the working method of many DTP professionals.

Process colour, where scanned full colour images are actually part of the document, is a much more complex business. For this you have to be able to split the colours into their constituent parts (CMYK) and save your file as a colour separation so that four high resolution printouts can be obtained for each page, and used by the printer to produce the eventual full-colour document. Even with Macs and PCs this is fraught with difficulties.

If you are attempting process colour words fail me...! If using spot colour then you might want to follow the colour mark-up route. You haven't told us what your bureau says about your problems: they are supposed to be the experts, after all. Are their print failures accompanied by PostScript error messages which might throw light on the situation? Are they really geared up to deal with colour?

**PageStream** has a long and somewhat chequered history on the ST (delays in releasing new versions, grey imports, lack of customer support). Unfortunately **Soft-Logik** still has no official UK distributor and hence no official support service over here. However **Silica Distribution (SDL)** does have a lot of experience with **PageStream** and has a helpline. You could fax **Soft-Logik** with your problems: tell them that their PostScript driver doesn't work as it should, and ask them what they are going to do about it.

fectured these as, for obvious reasons, I am very reluctant to modify commercial disks. In fact, I thought it would be best to leave them well alone until I obtained advice. Should I kill the virus or should I just leave them be and use them as before?

Secondly, I am a university graduate student busy writing a thesis equipped with my 1040 STE, Canon BJ20 and Compo's **Write On**. The problem is, for the work I am doing, any system that cannot handle a full set of mathematical symbols and a complete Greek character set is almost useless. Unfortunately, that's my system. I wrote to Compo about it and they told me that I need **C-Font** plus whatever help I can get from PD libraries regarding **Calamus** outline fonts. I had no trouble getting the mathematical fonts but have not had any joy with the Greek ones. I wonder if you know anywhere that I can obtain **Calamus** outline fonts for the Greek alphabet?

Thirdly, I gather that some software does not work on a four Megabyte ST. Does this apply to the STE or only to the STFM? Can you upgrade to four megs in stages or does it all have to be done in one go? How should it be done?

Lastly, the edge of the picture of my SM144 mono monitor is slightly fuzzy. Can I take it into any television repairer? If not, to whom should I take it?

**B Lane, Cutteslowe, Oxford**

*Whilst Butler James is a very good utility, it is not the most up-to-date as far as virus checking is concerned. We've never heard of the second virus you mentioned, but the Signum is quite common. It does not appear to do any harm apart from multiply and spread from disk to disk. You are quite correct in not destroying the commercial disks. They can have unusual boot sectors that can be identified as viruses and the whole disk can be destroyed if you're not careful. Get a copy of the latest Ultimate Virus Killer (£9.99 from most PD libraries) and check them with that. It had a repair file for commercial disks that can identify and cure them. Be very careful when using anything like this, though.*

*To make sure that you don't spread any viruses, switch your computer off between programs and make periodic checks on your disks. Make sure that all of your disks are write-protected - and only remove the protection when you need to write to a disk specifically.*

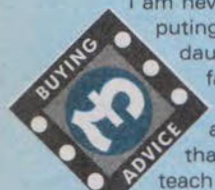
*The Greek alphabet is available as a Calamus outline font from the Atari Workshop (084 693 1919), but we understand that it may be a little costly. On*



your third point, the STE does not have to be upgraded in one giant leap. By adding two, one Megabyte SIMMS, you can upgrade to two Megs of RAM and add another two at a later date. Bear in mind that memory has to be inserted in pairs. You could not upgrade to three megs, for example, by adding three SIMMS. There is very little software that won't run with four Megabytes of RAM. You may find that some programs have problems with the different TOS versions, but this is not very common either. So the answer to your question is simply, don't worry about it.

The SM144 has the facility to adjust the frame size. If you have it set too large, it will be fuzzy around the edges. If, however, that's not the problem, contact the Atari Workshop on 081 693 1919 and they will look at it for you. Do not go to a television repairer; it's unlikely that they will have the technical know-how or the equipment to repair it.

### BAD ADVICE!



I am new to home computing. I have a daughter who is fast approaching school age and, realising that schools now teach computers almost from day one, I decided only last month to find out more about them.

I set off to the local newsagents and upon arrival found I was confronted by at least a dozen titles. In honesty, and with no preference to make, chose your magazine because I was impressed with the fact that you were offering £100 worth of cover disks free (*Timeworks*) and I'm also interested in DTP. However, after an hour or so of reading, I realised I wasn't going to become 'computer-friendly' overnight.

The only person I know with a computer is a family friend who owns an Amiga. I arranged to meet him, and I explained that I was very interested in buying the 1040 STE Family Curriculum II pack, initially with one Megabyte, but with a mind to upgrade to two later on.

He immediately said "don't bother". Unless, like him, you've got two Megabytes and a 20 Meg hard drive, you won't be able to run anything!

I said surely a major company such as Atari would not provide software that couldn't be run.

My friend said that even if the software could be loaded, so much memory would be used that I'd have problems typing more than a few words with *First Word* and, as for a printer, forget it! It'd have no chance of running.

I also mentioned the *Timeworks* disks I'd received free. He said: "They are just demos, and if not, you'd never get to print anything from it with a one meg or two meg machine".

To cap it all, he then finished by saying "besides, even a computer used as a games machine needs two megabytes to start operating properly".

Feeling confused, I left before he had a chance to offer me a demo of his (superior?) equipment.

All this has desperately confused me, and before I buy any computer, I would like it confirmed that the software I would receive with the pack (and *Timeworks*) do indeed run with the 1040 STE. I am of the opinion that your magazine would not bother with detailed guides for a demo disk. If the one meg machine is usable, then could you please also answer the following:

1. Which of the budget printers (nine or 24-pin) would you recommend to run in conjunction with *First Word* and *Timeworks*?

2. What utilities would be best to put to use from day one?

I am under the impression that I would need a virus killer. How are *Ultimate Virus Killer* from Douglas Communications and *FONTGDOS* from ST Club)? I would appreciate your views on these two and your recommendations on anything else I might need (eg a database). Can utilities for *First Word Plus* be used with *First Word*?

Finally, could you tell me how to get in touch with other ST users in the South Staffordshire/West Midlands area?

**Steven Pace, Tamworth, Staffs.**

*Your friend is talking complete rubbish! Not only is his advice totally wrong, it's dangerous; he's putting people off the ST and he could be putting people off computing altogether!*

*The 1040 STE is perfectly capable of running the software provided with the Family Curriculum II pack and practically all software available for the ST, including Timeworks and games.*

*It is true that extra memory and a hard disk drive will make life easier in the long run, but there is no need for these to start with. All you need is the pack, a copy of ST Review and the time to learn about it.*

*Even the 520 (half Meg) ST is quite capable of driving a printer, so your friend is wrong again. There is a range of excellent printers available for under £200 that would fit the bill perfectly. Look at Star, Epson, Citizen, Panasonic or even Seikosha.*

*Timeworks is a complete DTP package and not a demo. You should have no problems at all*

*in producing excellent looking documents with it.*

*As for utilities, there are so many that it's very difficult to advise you as to which ones to buy. Definitely get UVK, but the rest is up to you. A mouse accelerator is useful too, but most of what you need in the way of bits and pieces are on our cover disks. Give our back issues department a call and see what we have available. Also place a regular order at your newsagent for the best ST mag on the shelves.*

### BLACK AND WHITE



Can you please supply instructions for connecting a Ferguson 3 M M 0 8 W S mono monitor to my STFM. Ferguson used to supply a lead for use with the Sinclair computer. Is this suitable for the Atari and if so, which two pins on the monitor DIN plug should I wire to the phono plug? Any assistance will be greatly appreciated.

**D Bedson, Kings Norton, Birmingham**

*If, as suspected, you want to use the Ferguson as a high resolution mono monitor, I'm afraid you're out of luck. There is no way of connecting it to your ST. It may be possible to use it as a mono monitor in low and medium resolution, but that rather defeats the object. If that is what you want to do, contact the Atari Workshop on 081-963-1919 for details.*

### MISSING ICONS



I have recently fitted the TOS 2.06 upgrade to my 520 STFM which originally had TOS 1 in it. The problem is that I only seem to have about eight different icons available to me when I list them. Are there any more and how do I go about finding and editing them?

Thanks for an excellent and informative magazine. Keep it up!  
**Graham Johnson, Greenford, Middlesex**

*TOS 2.06 has many more icons than just the eight that you have mentioned in your letter. We can only assume that you haven't placed the file DESKICON.RSC in the root directory of your boot disk.*

*If this is present, you should find that you have many more different icons available to you. You can edit them using a program like K-Resource or WERCS, or any resource file editor.*

### DIAMOND FORMAT LOADING



I have a 1040 STE and I cannot use the *Diamond Format* program on your December 1992 cover disk.

On accessing the DFORMAT folder I get DFORMAT.ACC and DFORMAT.DOC. As instructed in your magazine, I read the document file and I am no clearer as to what to do to run this program. I cannot even obtain the screen display illustrated. Help!

Although a relative beginner in the use of a personal computer, I am quite experienced in writing technical instruction documents. I am disappointed in the general level of program instructions provided. They make difficult what should be an essentially simple procedure. There seems to be an infection of the instructions applicable to procedural programs from those applicable to games programs for which the minimum information is provided.

The technical instructions for running procedural programs could be made clearer by adopting the step-by-step process in the document files. The document file writers should be booted in this direction.

**C J Cundy, Northwich, Cheshire**

*DFORMAT is an accessory so it is loaded by placing it in the root directory of your boot disk. That is the disk that is in your disk drive when you switch it on, outside any folders. The program is then accessed by selecting Desk from the menu bar and then the program name itself which now appears there.*

*As far as the readme files are concerned, firstly, they are not written by us but by the programmers themselves. As they are not actually earning much, if anything, they are under no obligation to provide long and detailed explanations of how the program should be run. They do, however, generally try to make it as easy as possible.*

*There is the risk, as your letter proves, of complicating simple instructions by using language that the average user will not understand. For this reason, there are usually two ways of getting information about the cover disks. One is to read the file on the disk and the other is to read the information we give in the magazine. We try to make them as simple as possible, but it can be difficult to pitch the instructions to appeal to beginners and advanced users at the same time. Anyway, part of the fun can be finding out what a program is capable of!*



# LEARN THE LINGO

*If you're still getting to grips with your ST's complexity, our regular look at its jargon will help...*



## ARCHIVE

Archiving is a method of reducing a program in size when it's not being used, rather like folding a t-shirt and putting it in a suitcase until it's needed. See pages 94-6.

## BOOT DISK

The boot disk is the disk that is in your computer when you switch the machine on (drive A). This should contain any accessories or auto programs needed for that particular work session.

## CARTRIDGE PORT

The cartridge port on the left-hand side of the computer is used to connect cartridges. It can also be used to plug in anti-piracy devices called 'dongles' or even a clock cartridge that will keep the system clock up-to-date (see our offers, page 58).

## DATABASE

A database is an 'electronic filing cabinet'. Basically, it is a way of cataloguing names of people, compact discs, videos or anything else in a form that is easy to update. It also makes it easy to find any record when needed.

## ERROR MESSAGES

Error messages occur when something is wrong in the system or you try an illegal procedure. They are not very well documented. An error message is not always a complete disaster and the problem often has an easy solution.

## FLOPPY DISK

The most common way of loading a program into your ST is with a floppy disk. It is so called because inside the case is a coated disk that is made of a similar material to a cassette tape. The signals are recorded onto the disk and stored there. Because the data is stored using a magnetic process, it is important not to let the disks get hot or place them near a strong magnetic source such as a television or a loudspeaker.

## GEM

This is an acronym for Graphics Environment Manager. This is the easy-to-understand system of windows, icons and mouse pointer that is used with the ST.

## HARD DISK

A hard disk drive is a fast, convenient method of storing programs and provides a reliable alternative to a floppy disk drive. It has a much larger capacity, but it is more expensive to buy and is less portable.

## ICONS

The pictures that depict programs and files. These can be changed on the latest versions of the operating system, but on the STF and STE you are stuck with the icons that come with your machine.

## JOYSTICK

Mostly used for games playing, the joystick is an alternative method to the mouse of controlling movement on the screen.

## K

K is often used as an abbreviation for Kilo and, in computer language means Kilobyte. A Kilobyte is 1024 bytes (one byte being one character of information or a space).

## LASER PRINTER

A high-quality form of printing using laser technology. The principle involved in laser printing is similar to that of a photocopier: an image is created using a photo-sensitive drum and then transferred onto the paper.

## MENU BAR

This is the line of words at the top of the working screen, showing the options that are available to you.

## NETWORKING

Connecting your ST to another with a lead, using one machine to control or serve the other.

## OUTPUT

Anything that leaves your computer in the form of information is referred to as output. This can be directed to the screen, printer or disk drive.

## PATH

The path is the route taken to get to the files accessed by a program.

## QUIT

Quit is the command used by a lot of programs to exit and return to the desktop.

## RAMDISK

A RAMdisk is an area of the ST's memory set aside to emulate the characteristics of a very fast disk drive. Anything stored in this manner will, however, be lost when the computer is switched off, so it's important to make sure that you save anything in it to disk before turning the power off.

## ROOT DIRECTORY

This is the list of files found in the first window opened on a disk. An Auto folder and any accessories need to be in the root directory of the disk that you boot up with, otherwise they will not load.

## SCREEN SAVER

A screen saver automatically shuts off or changes the screen after a set period. This is done to avoid a constant image being burnt into the screen through having the same areas displaying the same information.

## TRACKBALL

In simple terms, an upside-down mouse! This is a ball device used instead of a mouse for moving the pointer around the screen.

## UTILITY

Programs that are designed to help you with other tasks are called utilities. These include such programs as RAMdisks, formatters, and many others.

## VIRUS

A virus is a small, unpredictable program that attaches itself to the boot sector of your disks and duplicates itself. Most of these are harmless and were created as programming exercises, but some can do your computer and disks real damage. Use a virus checking program and always switch your computer off between disk swaps where possible to minimise risks.

## WIMP

Windows, Icons, Mouse, Pointer. This acronym describes the GEM

desktop environment. Windows on the PC is also a WIMP environment, and the acronym actually describes how the system is designed to work.

## XCONTROL

Atari's new configurable Control Panel allows you to edit the environment for comfort in terms of colour, mouse response, keyclicks, bell and other options. This panel can configure other programs using files called CPXs.

## Y MODEM

A transfer protocol used for transferring data by using a modem on a telephone line. There is also X modem and Z modem (the latter being the fastest).

## ZOO

Zoo is a method of archiving (see above explanation) which is used to store programs and often to send programs via a modem.

## COMPACTED PROGRAMS

Programs can be archived for storage, to save disk space. Unless you can make them self-extracting, they require another program to restore them. Archiving is ideal for storage and transferring files.

There are programs that can pack a program so that it takes up less disk space but can still be run from a disk. These programs are compacted. Some load in and take a short time to decompact before they run. On our cover disks, you'll find that some of the programs have been compacted, but they don't take any noticeable time to decompact before running. This makes them ideal as we can cram more on the disk to give you even better value!



*Got a gripe or a tip? Want to take part in a debate, or even start one? Whatever it is that you want to get off your chest, this is the place to do it! Putting pen to paper could even win you £50 worth of software if your letter is chosen as our letter of the month*

# LETTERS

## CURRYING FAVOUR IN DIXONS

I read with some amusement the claims of Dixons in your December Opinion column. My experience of buying computers from Dixons and Currys is very different from the claims made in the article.

I bought my first STFM from Dixons in 1991. After a few weeks I was forced to take the computer back because I had problems with the keyboard. I telephoned Dixons when the problem first occurred and was told that I would need to take the computer back to the store where I bought it from. There was no offer of any on-site maintenance. I can only conclude that when Dixons state in the article "most printers, computers and fax machines carry a 12-month home warranty" that the Atari is not covered by this.

I would also dispute Dixons' claim that "staff are highly trained and approachable and will provide all the expert help and advice that the customer needs to make the right choice".

I recently attended a special opening of a computer department at Currys in Staples Corner, London. There were lots of friendly staff and PCs galore. Unfortunately, I could not get to see an Atari in action because the only one on display was an ancient STFM (not even an STE) propped on its side amongst the consoles and games software.

I work on a computer helpdesk and I know from first-hand experience the mess people can get themselves into when trying to run software on IBM compatibles. I therefore did not want to look at any of the numerous PCs that littered the showroom floor. However, I did see two Apple Macs happily sitting in a corner. I asked one of the staff if I could see a demonstration of **Aldus Pagemaker** on the Mac Classic. The member of staff had never heard of the software. I explained that it was a desktop publishing program. This rang a bell with the sales assistant who then proceeded to read the readme file on the screen. After failing to know where to look to find the

## LETTER OF THE MONTH

right software, I was asked if I did not prefer the colour screen of the Mac Classic's companion. I was told that this machine was better because it had a larger memory and could therefore run colour programs.

When I pointed out that both machines had four Megabytes of RAM and a 40 Megabyte hard disk drive, confirmed by the sales card propped up against the machines, and therefore both machines had the same memory, I was asked if I would rather see a PC running Windows! I swiftly left.

Computers would be the last thing I would buy from Dixons or Currys. If you want to buy a computer go to someone like Analogic Computers, Evesham Micros or WeServe.

I have had nothing but excellent service and products from these companies. The advice I have received has always been excellent and helpful.  
**Michael Alexander, Colindale, London**

*This letter actually highlights what I believe the choice is between high street retailers and specialised shops. In my (and your) experience, specialist retailers tend to provide a better knowledge of the products with the upshot that the buyer benefits from a much more personalised service. However, these independent shops find it much more difficult to compete with their multiple chain rivals on price and location. High street shops such as Dixons and Currys are by their very nature, very handy and easy to find and because of their buying power, machines tend to be cheaper than their independent counterparts. What this actually means at the end of the day, though, is that consumers have a choice. If you want informed comment and specialist advice then you must pay slightly more at the independent, if low-price and convenience is your main objective then the high street is still the only place to go.*

## USER GRIPEs

I thought I would write to you with a problem I have regarding a certain ST magazine. Although I am not going to name names, they are based in Cheshire.

The problem I have is this. Earlier this year I returned a cover disk of theirs for either replacement or repair. Also enclosed with the disk was a letter explaining that one of the programs (**Fastcopy 3**) developed some form of gobbledegook and would not copy, format or anything. I also stated that this disk completed my collection and if it could not be repaired or replaced, please could they return it to me as I have every disk and magazine ever issued by them (there's loyalty for you!) but alas, they did not even have the decency to acknowledge my letter.

Slightly perturbed, I wrote again in the middle of the year asking politely and with a certain degree of stiffness "just please return my cover disk as it forms part of my collection", so what did I get from them? In short, a big fat nothing. I didn't even receive a software package to compensate me for my inconvenience, nothing at all.

So once again I boot up the old faithful **Protext**, but this time I feel that I must go straight to the top, so I decide to write to the Editor (he will be the person who will kick some butt, methinks). I even sent the letter recorded delivery to him personally.

At least I will have the satisfaction of knowing that my letter will get to him eventually, but as ever I wait and just hope that I will hear the thudding of Dr. Marten boots

as my postman comes up my path with a letter from Macclesfield. Yes, I know, some hope!

How would ST Review resolve the problem I wonder? With no problem I suspect, just replace the faulty disk. End of problem.

I must point out that the magazine in question is always ready to print names and slag off mail order companies who don't come up with goods ordered in relatively quick time.

Perhaps it's time that they started to put their own house in order. After all, it's Joe Public like me that buy their magazines and, in so doing, keep their names off the ever growing unemployment register. What should I do next, or should I bother doing anything at all?

**Ian Watson, Dresden, Stoke-on-Trent**



First off can I just say that this isn't a problem experienced with any one magazine. All magazines have problems with their cover disks and it can only be expected that if you have over 100,000 (or more in our case) cover disks produced, then there are going to be some that don't work. The important thing is that magazines try to provide a service that compensates for this inconvenience...

I phoned John Butters at Atari ST User, and after reading a fax of your letter he sent me the following reply:

"Within every issue of Atari ST User, readers are given the address of our disk duplicator, where they are told to send all their faulty cover disks for replacement.

The editorial office does not keep master copies of the cover disks and does not have the manpower to repair disks sent to it.

ST User receives hundreds of readers' letters for help each month, and because it is my responsibility to produce a magazine, I give customer relations work to other staff.

They do an excellent job, but from time to time there are problems and the odd reader is disappointed with the service - rightly so in the case of Mr Watson.

So Garth, if you will forward his details, I shall ensure that this matter is sorted out."

Thanks, John.

I've sent your address to John and he'll be sorting out your problem personally. One thing that you should try to understand though, is that many problems like yours are actually exacerbated by people who accidentally return things to the wrong address and then get on a high horse about that company's supposed inefficiency.

At your level of rant, I think that you should be a little more sure of your own accuracy and efficiency before you begin to paint such a bad picture of everyone else.

## TUTORIAL HELP

I note from page 114 of Atari ST Review (Issue seven) that you have been running a series of articles called 'Getting Started With First Word Plus'.

Could you please advise me how I can obtain copies of the two previous articles or the relevant back issues of the magazine?

K H Dale, Harrogate, Yorks

Unfortunately, when we launched ST Review back in May, we made one fatal mistake - we underestimated both

the immediate and retrospective levels of demand that there would be for ST Review.

Consequently we didn't reserve enough copies for our back issues department and we cannot satisfy demand.

This should tell you two things:

1) You'd be extremely wise to reserve copies of the magazine by using the form on page 130...

2) We'd be extremely stupid not to re-examine the number of magazines that we are currently supplying.

We've done something, but the question is, have you?

P.S. We've sent you photocopies of the articles in question but we must stress that this is not a service that we normally supply.

## IDENTITY CRISIS?

Firstly I should point out that I love my STE dearly and I rate Atari as the best producer of hardware this century. On the other hand, they are the poorest company I have come across when it comes to marketing!

When I bought my current ST (my third so far), I was convinced it would last until I was wealthy enough to buy a Mac or a 386 PC or what have you. This deluded view has been shattered by Atari and related software houses who seem to have forsaken the ST and moved to the Amiga and various consoles. Why?

I write, draw pictures and create lots of music on my ST and the packages I use are **First Word Plus**, **DPaint**, **Noisetraacker** and **Concerto**. These all accept industry standard file formats and to test this out I converted some Amiga pictures and sound modules to my Atari - using software.

If I can do this in 15 minutes at home, why can't the software houses? Admittedly there's the problem of coding but games such as **Eye Of The Beholder** are written in C, so they should take virtually no altering.

I have little technical knowledge of the ST, but even I could probably get Amiga games running happily on an Atari.

It is simple and I don't understand why publishers won't bother. Surely it can't cost that much to sort out.

Still, I thought, at least there's the prospect of the Falcon to save the Atari name, isn't there?

Well, probably not. If they don't do some serious marketing aimed at kids, the Falcon is dead.

It shouldn't be this way, true, but games happen to sell computers and mostly kids buy games (I ran a computer shop once, so I know what I'm saying).

What Atari really needs is a character. After all, Mario turned a 100-year-old card company into the world's leading video games giant.

Sonic put Sega into every British street. Who can rescue Atari? Hopefully the company itself will be able to come up with the answer as we would all be heartbroken to see the Falcon plummet.

Anyway, thank you for the perfect ST magazine. I bought issue one rather tentatively. £3.95 is a lot of money to me, but I now buy it every month and I offer you a huge vote of thanks. Keep up the excellent work.

P.S. I have a game called **Ultima IV** on my Sega Master System and even **Ultima II** on my ST. Can you still get the Ultima series for the ST and what is the most recent?

Nick Forester, Alton, Hants.

You're actually quite accurate in your opinion of the markets Nick, and the games buying section is hugely important to any machine that is trying to break into a market.

However, there are many things that the Falcon does have on its side. Firstly, Atari admits to losing control of a games market that it initially had wrapped up when the ST was first launched and secondly, they are now looking at a machine that really is the future of the whole company. They can't afford any mistakes because if they make any they could well be their last.

Electronic Arts has just taken over the license for the Ultima series but currently has no plans to support the ST versions. Some copies of Ultima are still available but you'll have to phone around specialist shops to find them.

## AMATEUR HELP

Recent Ask The Experts questions referring to amateur radio prompted me to write and recommend Newnes Amateur Radio Computing Handbook by Joe Pritchard (ISBN 0 434 91516 5). An excellent book that contains a wealth of information on the subject and also many programs written in basic covering Morse code, RTTY, ASCII, AMTOR, SSTV, FAX and more.

S Canty, Hull, Humberside

Well, thanks for the information. And, er, 73 to you. (That's goodbye in radio speak).

## GAMES HELP

Can you tell me how to get a level cheat on **Rainbow Collection**? As for your tips in ST Review (October 1992) for **New Zealand Story**, I could not get infinite lives by typing in FLUFFYKIWIS on the title screen. Obviously I must have done something seriously wrong. Can you elaborate on the procedure, please, that is, exactly how to do it?

Secondly, how can I get rid of the big spider from world one in

**Rainbow Islands**? I seem to have got killed many more times than John Wayne got shot!

Lastly, I was so frustrated by **Puzznic** when I lost all my lives and could not get anywhere but go back to square one and repeat the whole process again.

Please tell me again how to get the level cheat.

Are there any publications on hints, tips and complete solutions for ST games? I like playing games but I'm not very good at them.

Thank you very much if you will be the one who keeps my sanity intact, at least for the time being.

Mrs. L Cunningham, Great Barr, Birmingham

Firstly, the reason that your type-in cheat doesn't work is because you have an old copy of the game.

The original cheat had to be changed because it was in very bad taste. We consequently can't reproduce the cheat in full but here it is, **MOTH-ERFU\*\*\*NGKIWIBAST\*\*\*S** - just use your imagination to fill in the spaces and type it in on the screen where it says press fire to start.

## HOLES IN GRANDAD'S VEST

I am writing to you to point out a mistake in the November issue of your magazine.

Turning to page 107, I was impressed by the review of **Grandad And The Quest For The Holy Vest**. Great, I thought, and quickly filled in the order form, hoping to catch the next post.

A few days later I received a package from LAPD. I eagerly ripped open the cardboard and placed the disk into the drive, only to be confronted with the message 'There is not enough memory in your computer for the application you just tried to run'.

Hang on a moment, I thought, and referred back to page 107. Sure enough, '0.5 Mb' read the article. However, turning to page 109 the LAPD advert clearly states that 1 Mb is needed.

I was very unhappy about being misled in this way as I rely on your magazine for accurate information, and it has cost me last week's pocket money.

Alex Packham, Bristol, Avon

Oops! This was a minor error on our behalf, but unfortunately it resulted in a major problem for you.

All I can say is that whilst we try to be accurate on everything we print, we just cannot guarantee that the odd mistake won't happen.

Luckily the guys at LAPD are a good bunch and they say that if you return the disk to them, then they'll sort it out so that you're happy.



## HARD COVER DISKS

Being a one in a million (or so it seems), hard disk user, I am having a little trouble using cover disk software - for example, the cover disk with two great games on it, *Slug* and *Evader*.

I copied them into my games folder (to keep software of the same type together). When run, *Evader* could not find a file. On inspection with an editor it was found to be packed and I then had to unpack the 140K game.

On second inspection I found the path to be \folder\filename.ext. I set the path to filename.ext and then saved and tested the game. It now runs in any folder as long as its files are saved in the same place.

*Slug2092* was also packed, but this time using a different packer. You may ask why I bothered to unpack them?

Well, I have no problem with hard disk space and I have found that it takes longer to load and unpack then run, than to load and run unpacked (I have a fast hard disk drive).

So please, please, ensure that paths are kept simple and please tell us which packer is used. Better still use only one packer.

**J Briscoombe, Harrogate, N. Yorkshire**

*Files are only packed when it is necessary to do so for reasons of space. We only use one packing program to carry out most of our packing, but some things are packed by others before we get them.*

*The packer that we use (which we will keep as our little secret) does not noticeably increase loading times, even with a fast hard disk drive.*

*The question of paths is also something that is often beyond our control, but rather like commercial software, we hard drive owners often find ourselves unable to use them to run the software.*

*Authors write their programs and are satisfied when they run, but they don't necessarily cater for every different setup as long as everyone is able to run the program.*

## LESS GAMES

I've put pen to paper to make a few comments on your magazine.

My first point is your games coverage. In my opinion, you put far too many games reviews in your mag. The ST is not a games machine, but you put around 25 pages of reviews that just aren't wanted at all. Anyone interested in games buys ST Action, so can't you make ST Review just a serious magazine only?

Secondly, I agree with S Hart that there should be a Classified Ads page in the magazine.

I think your cover disks are very

good and I look forward to getting the next ones.

**Ben Callaghan, Manchester**

*Obviously, we make every effort to please everyone, but what's right for one is not always right for another.*

*The ST is capable of many different aspects, from games through to music, with a lot in between. Whatever we do to the magazine, someone will consider it wrong, so we have to try to balance it.*

*Judging by the response from our recent survey, most of you seem to think that we've got the balance about right.*

*As for the classified ads section, we printed a form in an earlier issue and got just one reply! If enough of you let us know that you'd like this service, perhaps we'll have another go later on.*

## PRINTER PRICES

I read with interest the article *Affordable Luxuries* by John Mallinson in your August issue. I have one question. In the table on page 52, a street price of £88 is quoted for the Seikosha SP-1900+. My question is, what street, where? I have, so far, been unable to get a quote below £115 anywhere.

**C J Docherty, London, SW19**

*It seems that you need to know which streets to look. I spoke to John and he checked his price lists. Indeed, at the time of writing, the printer was available for £88, but the best price is now £93. This price is, however, exclusive of VAT and is available from Computers By Post on 081 760 0014. I hope this helps.*

## JUST THE FAX, MA'AM

Some years ago, I bought an Atari VCS (Video Computer System). This led me into the world of computers and I then bought an Atari 400 (with the flat keyboard) followed by an Atari 800XL and a 130 XE. The software for 8-bit computers died out at about the same time Atari brought out the ST. Eventually, I bought an ST and for a time I used both my ST and XE side by side, until I lost interest in the XE and it broke down anyway. My 8-bit hardware and software are now consigned to the home for retired computers.

Software support for the STE is dying out, just as it did with the 8-bit computers and Atari has produced the Falcon030 which (surprise, surprise) doesn't look as if it will run most STE software. I can't afford (and don't want to anyway) to lose the use of all my ST software, so if I buy the Falcon, this leaves me with the bizarre option of running two identical looking computers side by side. Could this

be a case of history repeating itself, I wonder?

Surely Atari could have produced some kind of hardware or software toggle to allow the use of ST software on the Falcon?

I would be quite prepared to pay £50 or so extra for some kind of reliable hardware emulator. Even buyers of the Falcon who don't own an ST would, I'm sure appreciate having access to the wide range of software already available to owners of the STE.

As it is, instead of being eager to buy the Falcon, I will probably wait and watch its development and the software development for the machine before committing myself.

I may even opt to buy a PC. At least (I believe) there is an ST emulator for that machine!

I used *First Word Plus* to write this letter, then ASCIIIFY to produce a file that Straight Fax (reviewed in an earlier issue of ST Review) could read. Then I faxed it through to you with a Supra fax modem. Could you please tell me how readable it was when you received it?

**Larry Roberts, Neath, W. Glamorgan**

*The Falcon 030, as stated many times in these pages, is not a replacement for the ST. There is still plenty of software being produced for the ST range. It is, however, only natural that progress will take over and, eventually the ST will fade away as did the XL and XE series. This will only happen because the new medium will be so advanced that people will no longer want the older equipment. Remember, the ST is basically a seven year old machine now!*

*As for support dying, it is a fact that 8-bit software is still being produced by some people for the old XLs and XEs. The ST will be supported for a long time to come, unless people desert it completely.*

*The software houses are money motivated and will produce for where they can earn the most first.*

*As long as people buy ST games they will be produced. As for your fax, it was received here in perfect form. A comparatively cheap way of installing a fax machine in the home.*

# HAVING TROUBLE WITH TIMEWORKS?

*We've had a number of letters from people with problems loading or installing the Timeworks DTP package from issue seven of ST Review. Here is a list of some of the problems you've been contacting us with...*

**PROBLEM:** The computer keeps asking for an 'Overlays Disk'.

**SOLUTION:** You have got the initial settings wrong. Change the disk drive configuration on the main installation screen to one (or two) 700K floppy. The system is otherwise installing the program for single sided disks, where this problem arises.

**PROBLEM:** The FONTWID.APP program will not run.

**SOLUTION:** Put the STARTUP disk into the drive. Switch the computer OFF for 10 seconds and switch it back on. Place the Fonts disk in the drive and then run the program. When it is finished, put the Startup disk in the drive and start the program by double-clicking on the file PUBLISH.APP. You do not need to run FONTWID.APP again unless you re-install the program. For future

use, just switch on with the Startup disk in the drive and run PUBLISH.APP.

**PROBLEM:** The program will not load automatically.

**SOLUTION:** Timeworks does not run automatically. If you want it to and you have TOS 1.04 or above, install it as an application and set it to auto run. For pre-TOS 1.04, use a program like Startgem or Headstart in the AUTO folder (available from all good PD libraries and bulletin boards).

**PROBLEM:** When it comes to printing, I get the wrong spacing and white lines in the hard copy.

**SOLUTION:** The chances are, your printer has a dip switch for a line feed or a carriage return (LF OR CR). Change this to OFF. Details should be in your printer manual.



## Family Roots

### THE ELITE OF GENEALOGICAL SOFTWARE.

After 3 years of development, Floppyshop are proud to present "Family Roots". The program is designed around a fully functioning integrated workbench which is ideal for both the serious user and beginner alike. The user creates his or her family tree graphically on the screen by linking directly between the individuals. The growing tree structure can be zoomed, scrolled, altered, scanned, printed, manipulated etc.

The powerful database can be viewed instantly at the click of a mouse button. Marriage partner(s), children and parents are all easily and instantly accessible. A built in powerful search function enables fast cross referencing and multiple scanning.

On line help and information are available at all times, you don't have to worry about losing your place, the program remembers it for you. The printing section supports both graphics and text output.

To order your copy of Family Roots, send a cheque or postal order for £24.95 to the address below. UK postage free, please add £1.50 for Europe or £3.00 for the rest of the World. Credit card orders welcome.

A disk with useable demos of Family Roots, Around The World and Professional Virus Killer is available for only £1.00.

## Around The World

Floppyshop are pleased to announce the release of their first commercial game. Around The World is an arcade adventure in which you assume the role of Phineas as he negotiates his way through 40 taxing levels of sheer enjoyment and addiction.

During your adventure you will face many dangers and surprises including toxic waste in the Oceans and rock falls in the Jungles. Locate concealed switches to unlock additional caverns and search for keys which will reveal hidden treasures and further your quest. Can you rise to the challenge and survive this epic journey by completing all 40 levels?

The game features a large playing area, devious puzzles, creeping fungus, rock falls, explosions, an original soundtrack, 50 entry high score table, 40 levels of increasing difficulty, over 40 colours on screen and much more!

Around The World was programmed over more than a year by The Pixel Shop, better known for their many Budgie UK titles under the name of The Happening Boiz.

To order your copy of Around The World, send a cheque or postal order for just £9.95 to the address below. UK postage free, please add £1.00 for Europe or £2.00 for the rest of the World. Credit card orders welcome.

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GM 080: COMPANION I A brilliant shoot-em-up, one of the best around with plenty of game play.  
GM 082: SMASH HIT The best game of tennis around, no easy way to beat the computer.

GM 083: HOVERJET Just in from the USA, a demo of a multi-player 3D where you take on all comers.

GM 084: CYBERSNAKE The best of the 'Snake' type games around, comes with two other games.

GM 085: ANARCHY ACADEMY A commercial 3D game now in the public domain.

### ADVENTURE GAMES

ADV 016: STAR PORTAL A top quality sci-fi set in the far future, very well put together.

ADV 018: ELF Help Father Christmas get things sorted out for Xmas.

ADV 029: DUDLEY DILEMMA Help Dudley in his quest for knowledge and fame, a real brain twister.

ADV 040: GRANDAD AND THE QUEST FOR THE HOLEY VEST A great graphic adventure, The best. Imeg.

We have a large selection of other types of PD disks, why not send for our FREE catalogue disk?, or give us a call and chat to either Martyn or Dave, you might even talk us into putting the program you want onto the catalogue disk. **PRICES:** £1.50 each for up to 4 disks, 5-9 disks £1.25 each and 10 and over disks £1.00 each.

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Real initial, surname, league career records, height and age entered for all players as at the start of the 92/93 Season. Five skill ratings per player, separate five for goalkeepers. Plus 15 other special attributes like Captain, Super Subs & Mobility.

A lively and real-time transfer market, with an approach facility, negotiate wages and contracts. Plus loans, free transfers and trainees. Unique and simple training system to improve player skills.

High quality printer facilities to list all the vital information. Masses of historical statistics on past games, players and manager. Quick game data load and save.

All screens updated quickly and displayed in a pleasant format, which is easy to use and comfortable to read. Fully mouse operated. Printed instruction booklet with plenty of diagrams. A separate Editor is available to change saved/initial details.



ESP Software, 32a Southchurch Road, Southend-on-Sea, Essex SS1 2ND.

There are many, many other little things that make this game the most addictive and accurate interpretation of a Football Managers season. It would be impossible to list all the features in this advert but we assure you that this is the best. We have thousands of satisfied customers from our previous edition of this game, many are still playing it 18 months after purchase. See the order form below for details on how to order this incredible game. Available for all Atari ST's and Amiga's. PC WINDOWS version coming soon.

## STABLE MASTERS

Four years of development by a racing expert has led to the release of this great strategy Horse Racing simulation. You can participate as the Owner, Trainer and or Betting Punter in this remarkable game. As the trainer you must try to discover the horses ideal racing conditions (mainly distance & going). Animated race display, formbook holds information on the previous 100 races, racecards, 200 different horses with independent personal profiles with over 50 different individual characteristics, tipsters, simple mouse and icon menu selection, up to five players may participate in the same game.



Amiga 1MB or any Atari ST. Only £19.95

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### MAIL ORDERS

All the programs detailed in this advert are only available through direct mail from ESP Software.

Name ..... Address .....

..... Postcode ..... Tel .....

I have an ..... computer, please send me the following items:-

| Quantity | Description                                                                                                                                                         | Unit Cost | Total       |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-------------|
|          | Football Masters 512K                                                                                                                                               | 19.95     |             |
|          | Football Masters 1MB                                                                                                                                                | 24.95     |             |
|          | Football Masters Editor                                                                                                                                             | 12.00     |             |
|          | Stable Masters                                                                                                                                                      | 19.95     |             |
|          | POSTAGE (Non European Only)                                                                                                                                         | 1.00      |             |
|          | If you have a cheque/guarantee card or credit card please write its number on the reverse of your cheque, doing so will ensure dispatch within 48 hours of receipt. |           | GRAND TOTAL |

I enclose a Cheque/Postal Order made payable to ESP SOFTWARE.

Cut out and post this form to: (photocopies or written orders are acceptable)

**ESP Software (SR), 32a Southchurch Road, Southend-on-Sea, Essex SS1 2ND. UK.**



# THE BLITTER END

*The end of another issue and we finally come to the Blitter End, where all those inevitable loose ends are tied up into a neat bundle*

**T**his month, we've got a list of Atari-related clubs. They are an ideal way to meet others with similar interests and swap ideas and PD software. You can even discuss your problems - there's bound to be someone in the club who knows the answer.

On this page in future issues, we will feature your own stories relating to the ST, so if you have an amusing anecdote or even a cartoon, send it to **The Blitter End, Atari ST Review, Priory Court, 30-32 Farringdon Lane, London, EC1R 3AU.**

You will get the pleasure of seeing your name in print and exceptional submissions may even be rewarded! Remember, though, we cannot guarantee inclusion and artwork cannot normally be returned, so don't send us anything you want to keep and please don't enclose an SAE.

## ARE YOU A WINNER? *Catch up on who won what in our competitions*

### GREAT GAME GRAB!

Some of the best software ever was up for grabs and all you had to do was answer two questions. The new Formula One champion is, Nigel Mansell (C). The games section is Screen Scene (B). The first names out of the hat are:

First prize (software to the value of £500): A McIntire from Bristol.

Second prize (£250 minimum): Philip Patterson from Llandudno.

Third prize (£100 minimum): John Thompson, Ealing, London.

### KEY CLICKS

There were three sets of Key Clicks up for grabs following our feature in October. The answers are:

1. The original Key Clicks are grey.
2. The upgrade is suitable for all machines except the Mega STs and the TT (they already have a better quality of keyboard).
3. There are 37 screws in total

that have to be removed. (seven holding the case together, 28 holding the keyboard together and two holding the mouse and joystick housing). As the question did not clearly define the keyboard, we will accept 30.

The winners are: Thomas Summers, Tunbridge Wells; Philip Rodgers, Swindon and J Cribbin, Camberwell.

### TOS 2.06 UPGRADE

We gave you the chance to win a TOS 2.06 upgrade. The answers to the questions were:

1. Compo produces the upgrade.
2. The 'No Sort' options shows the order of programs in your Auto folder.
3. The new computer from Atari is the Falcon.

The lucky winner of the upgrade is Mr. J. Allen from Needham Market in Suffolk.

## DEAR MR. NEWSAGENT

*Use this coupon to reserve your copy of ST Review on the 14th of every month*

Please reserve me a copy of Atari ST Review every month starting with issue number.....

\* I will collect it from you/please deliver it to my address.

\* Delete as necessary.

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Newsagents note: Atari ST Review is an EMAP Publication and is distributed by BBC Frontline. If you have any problems obtaining copies of this magazine, please contact us on 0733 555161.

## GET IN TOUCH! ATARI USER GROUPS

### CAMBRIDGESHIRE

Huntingdonshire Computer Club  
Tony Croft, 7 St. Martins Road,  
Chatteris, Cambs PE16 6JB

### CORNWALL

Mid- Cornwall Co-op Computer Club  
Mike Richards, 8 Victoria Road,  
Roche, St. Austell, Cornwall,  
PL26 8JF (0726 890473)

### DEVON

South West ST User Group  
David Emery, 5 Turbill Gardens,  
Chaddlewood, Plympton, Devon,  
PL7 3XF (0752 330176)

### DORSET

Bournemouth & Poole Atari User Group  
Ian Booker, 163 Verity Crescent,  
Canford Heath, Poole, Dorset  
BH17 7TX (0202 672907)

### ESSEX

Brentwood Atari User Group  
Gavin Dandridge, Grindewald,  
Crow Green Lane, Pilgrims  
Hatch, Brentwood, Essex CM15  
9RH

Colchester Atari User Group  
Martyn Rayner, 61 Rayner  
Road, Colchester, Essex, CO2  
9AE (0206 760168)

### HERTFORDSHIRE

Cheshunt Computer Club  
Derryck Croker, 196 Coates  
Way, Garston, Watford, Herts,  
WD2 6PE (0923 673719)

### IRELAND

Atari User Group of Ireland  
Mike Casey, 3 St. Kevins Park,  
Kilmacud, Co. Dublin

### KENT

Maidstone Computer Club  
Ray Stiles, 4 Brookmead Road,  
Cliffewoods, Kent, ME3 8HP,  
(0634 221123)

### LANCASHIRE

Wigan Computer Club  
Alan Owen, 1 Lidgate Close,  
Wigan, Lancs, WN3 6HA (0942  
212662)

### LONDON

London Atari Computer  
Enthusiasts  
Glenn Leader, 143 Richmond

*This is a list of registered local clubs from the Association of Atari User Groups. Feel free to contact them and go along to meet like-minded people, swap PD and get new ideas*

Road, Leytonstone, London, E11  
4BT (081 960 1605)

### MIDLANDS

Midland Amateur Radio ST  
Group  
Michael Nyman, 12 Ainsdale  
Gardens, Erdington,  
Birmingham, B24 0EP (021 382  
3606)

Bloxwich Computer Club  
Edward Hunt, 29 Station Street,  
Bloxwich, Walsall, WS3 2PD  
(0922 409291)

### NORFOLK

Norwich User Group  
Ken Ward, 45 Coleburn Road,  
Lakenham, Norwich, NR1 2NZ  
(0603 661149)

### SCOTLAND

Atari User Group of Scotland  
Fraser Blacklaws, 9/3 North  
Hillhousefield, Edinburgh, EH6  
4HU (031 553 1288)

Uddingston Atari/Amiga Users  
William Beaton, 28 Croft Wynd,  
Uddingston, Glasgow, G71 8BJ  
(0698 816531)

### WILTSHIRE

Swindon Atari User Group  
Mike Bird, 46 Eastcott Road,  
Swindon, Wilts, SN1 3LR (0793  
539105)

All of the above hold meetings and most publish a newsletter. They cover the ST range and the XL and all would welcome new members. Why not give your local group a call?

If you know of an active group that is not on this list, please ask them to get in touch with the Association of Atari User Groups, 45 Coleburn Road, Lakenham, Norwich, NR1 2NZ and also write to us here at ST Review. We'll do our best to promote your club. Let us know what you are doing, too, but remember to give us at least two months notice of any events you are staging.





# The Serious Page

## The HiSoft Promise

While many other companies are abandoning the Atari market, we are moving forward, acquiring and writing new titles, many of which are detailed on this page.

Rest assured that we will continue to offer you the best software at truly competitive prices with a range of customer support options to ensure that you can use your Atari 680x0 computer, and our software!, with confidence and ease.

We are very encouraged by the Falcon030, believing that it will breathe new life into the general-purpose microcomputer market, which has often been driven by the computer enthusiast, who will find this new machine both fascinating and exciting.

We will sticker all Falcon030 product with Atari-approved labels for convenience and clarity; there are three such labels - *Falcon030 Exclusive*, *Enhanced* and *Compatible*, watch out for them.

## TruePaint £39.95



Due for release in November 1992, TruePaint is the first art package to take advantage of the true colour capabilities of the Falcon030 computer. Some of the highlights of the product are:

- Works in all resolutions including 768x480 True Colour
- Easy-to-use multi-window environment with menus, toolbox and keyboard shortcuts
- Full range of drawing tools
- A large variety of effects including shear, wrinkle, smooth, rainbow etc.
- Zoom, full screen mode with edit, colour picker, bezier curves
- Animation, FSM/Speedo GDOS support, wide variety of file formats including IFF, TIFF, JPEG and more

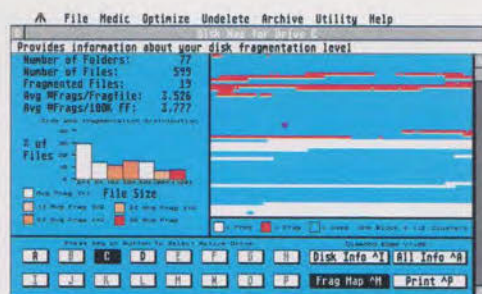
Watch out for more details of this exciting new package, or call us and we will send you a brochure when this is available.

**HiSoft BASIC 2, Harlekin 2, Lattice C 5.5, HiSoft C, HighSpeed Pascal, FTL Modula-2, KnifeST, WERCS, HiSoft Devpac, Wordflair, Diamond Back, Superbase, Diamond Edge, K-Spread, K-Data, K-Word, FirST BASIC, HiSoft FORTH, ProFlight, Tempus 2 ...**

All prices include UK VAT and P&P within the UK. Please call for export prices, educational discounts etc. E&OE. Specifications and prices may change.

## Diamond Edge

£39.95



From the authors of Diamond Back, the popular hard disk backup program, comes a new package that is essential to any serious user of an Atari 680x0 computer.

Diamond Edge is a complete set of management, optimisation, diagnostic, repair and data recovery tools for use with floppy disks and hard disks.

## XBoot 3 £34.95

We are pleased to have acquired the exclusive rights to version 3 of this package, which provides comprehensive management of your AUTO folders.

XBOOT is an efficient, easy-to-use program and comes with a well-written and useful manual.

## Kuma Products

We have taken on the majority of Kuma Computers Ltd's products for the Atari and Amiga computers, while Kuma concentrate on their book titles.

We are re-compiling K-Spread 4 under Lattice C 5.5 and hope to end up with a faster, more compact product, which we will correct and enhance.

## Superbase Professional £99.95

Following the sale of the ST and Amiga versions of Superbase to Oxxi Inc with whom we are working closely on a project for the Falcon030, we are pleased to be able to offer Superbase Professional (Version 3) at a substantial saving over its previous recommended price.

All HiSoft's products should be available through your local computer dealer. If you have difficulty in obtaining a title you can order directly from HiSoft using your credit or debit card - just call Julia, Sallie or Marlynne on 0525 718181.

**HiSoft**  
High Quality Software

The Old School, Greenfield,  
Bedford MK45 5DE UK.  
Tel: +44 (0) 525 718181  
Fax: +44 (0) 525 713716

## Devpac 3 £79.95

HiSoft Devpac 3 is the latest version of the popular assembler / debugger package for all Atari 680x0 computers. Packed full of features, it is the ideal programming environment for beginners and professional programmers alike.

Improved and extended, the Devpac 3 macro assembler is now often 40% faster than its predecessor (without using pre-assembly), has many extra, switchable optimisations and, with the ability to pre-assemble files for inclusion, can now claim to be the fastest assembler on the Atari computers. It produces 68000 up to 68030 code (via a user option) & supports the maths co-processors.

Devpac 3 is supplied with a professional 350-page, wire-bound manual, all the necessary include files for your system (ST/STe/TT/Falcon030), GST and Lattice linkers, various utilities, example programs and a complete 68000 Pocket Programmer's Reference Guide. Call or write for more details.

## Wordflair 2 £129

We are delighted to announce, at last, the immediate availability of the English variant of Wordflair 2, version 1.1. The main features of this exciting, and long-awaited, package are:

- Full support for FSM GDOS which is included with the product
- Much improved user interface
- English language spelling checker and thesaurus included, with up to 5 user dictionaries. Plus hyphenation
- Improved graphic handling including the ability to preserve the aspect ratio of the graphic, hide the graphic (for faster display) and find the graphic on disk
- Expanded and improved region setup with a easier choice of Calc/Graph/Write regions
- Enhancements to the database handling

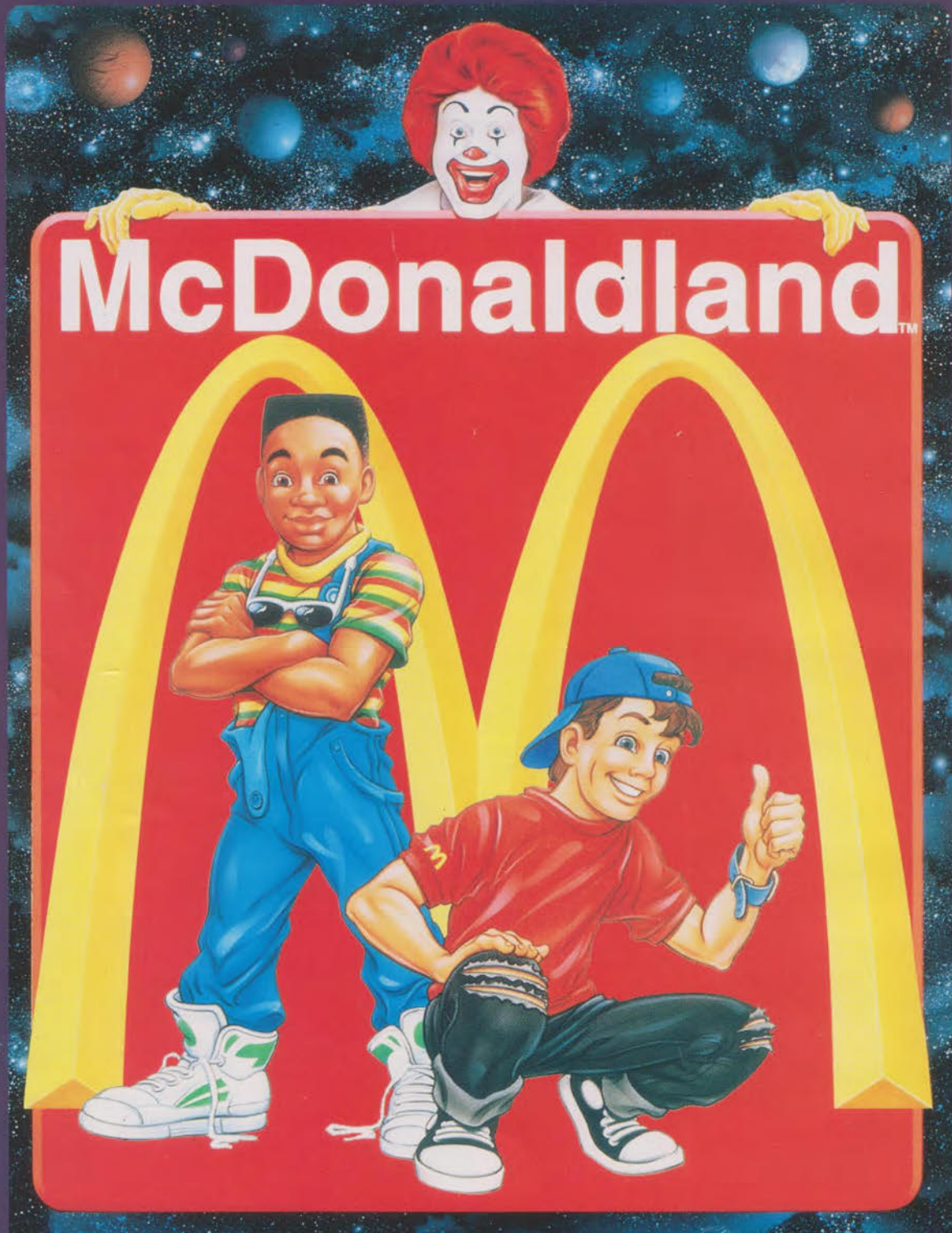
including the ability to import tab- or comma-delimited ASCII files  
Wordflair 2 is now in stock.

The package requires at least 1Mb memory or 4Mb if used with an Atari Laser printer.





# 1 Cool game, 2 Cool Kids



Screenshots may be taken from a different version.

**BOGUS! Ronald McDonald™s Magic Bag has been taken by the Hamburglar™!**

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There's a world of difference to enjoy in McDonaldland™. It's a magical place with over 30 awesome levels full of crazy creatures and secret surprises to discover. McDonaldland™ features a radical two-player co-operative mode. And if playing upside down doesn't keep you on your toes, the Moon's groovy gravity surely will!

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